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“The empire of man over material things, has for its only foundation the Sciences and Arts.”—LORD BACON.

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# INDEX TO VOLUME XX.

A GLANCE back and a look forward, 1  
A too rare voice, 30  
Accidents, 354  
Adversaria Hibernica (see each number)  
Aghahoe, St. Canice's Church, 312  
Aghade Church, re-opening of, 130  
Aghaderg Church, Loughbrickland, 29  
Air, diffusion of, in buildings, 301  
Alliance and Consumers' Gas Company's new bill, 349  
Amalgamated Society of Carpenters and Joiners, 111  
Ancient Dublin muniments and municipal records, 41  
Antiquarian society, a new, 212  
Antiquities of Howth, 295  
Archæological Institute, 116  
Archæological meetings, 234, 257, 271  
Architect, action against an, 367  
Architect, City, the, 151  
Architect of Aldborough House, who was? 228  
Architect-slater, an, 269  
Architect and artisan, technical education and the, 339  
Architects, Irish, and the Royal Institute of British Architects, 247, 268  
Architects, English, in Ireland, 357  
Architects, general conference of, 172; international congress of, 241  
Architects, "furniture-designing," 52  
Architects and medical sanitarians, 130  
Architectural Association, London, 36, 107  
Architectural cogitations in Cork, 163  
Architectural judge, an, 223  
Architectural "restoration," art and, 109  
Architecture at the Paris Exhibition, 348  
Architecture, lectures on, 69, 85, 102, 121, 136, 152, 164  
Architecture, street, How can it be best improved, with due regard to economy? 318, 331  
Architecture, the mud cabin in history and, 323  
Architecture, unsanitary, and the public health, 113  
Ardee, sanitary state of, 169  
Arklow Harbour improvement, 309  
Arklow Town Hall, 349  
Armagh Presbyterian Church, 19  
Art, amateur, 369  
Art and architectural "restoration," 109  
Art, Greek and Roman, 6, 25, 37, 57, 73  
Art and Science Museum, new, 212, 301  
Art schools: Dublin, 202, 241, 310; Cork, 20  
Art Union of Ireland, 109  
Art-work, ecclesiastical, 106  
Art, works of, recommendations of Copyright Commissioners in regard to, 209  
Arts, fine, Government and the, 151  
Artist *versus* art-critic, 364  
Artisan and architect, technical education and the, 339  
Artisan dwellings schemes, revelations of, 226  
Artisans' dwellings: Dublin, 18, 202, 853; plans for, 52; notes, 353  
Artisans' Dwellings Act, 279  
Artisans, English, at Paris Exhibition, 218, 253  
Artisans, Irish, and exhibits at the Paris Exhibition, 130, 144  
Artisans, importance to, of acquiring a knowledge of drawing, 264, 280  
Ash-heap a nuisance, is an? 82  
Athenæum, The, bi-centenary of, 27

BALFE: memorial, 173, 210; birthplace of, 202  
Bann navigation, proposed works, 366  
Bantry Convent chapel, 77  
Belfast: new Presbyterian church, 4; technical education in, 70; dwelling-houses, College Gardens, 174; new premises, Lombard-street, 328; River Lagan and Harbour, 336; new parsonage, Malone, 358; Christ Church, 358  
Belfast Improvement Bill, 202  
Beresfords, the Irish, and their landed property, 226  
Biography of William Kilburn, 355  
Board of Works administration, 208, 231, 249, 260, 276, 292, 308, 324, 340  
Boiler explosions, 141  
Boilers, steam, for high pressure, 152  
Boilers, action of Varty water on, 271  
Books, pamphlets, &c., received:—Once a Week, 14, 47; Irish Temperance League Journal, 14, 47; Spon's Architects', Builders', and Contractors' Pocket Book, 1878, 27; Industrial Art, 27, 47; Whitworth Papers, 27; Calvert's Mechanics' Almanac, 1878, 27; 1879, 351; Davies' Treatise on Slate and Slate Quarrying, 47; Wilson's Boiler and

Factory Chimneys, 140; McVittie's Details of Restoration of Christ Church Cathedral, 166; The Brennan Genealogist, 166; Observations upon the Working of "The Regulation of Railways Act, 1873," and of the Court of the Railway Commissioners, 202; Public Health (Ireland) Act, 1878, with Schedules, &c., 289; Leeper's Historical Handbook to the Monuments, Inscriptions, &c., of the Cathedral Church of St. Patrick, Dublin, 289; Journal of the Royal Historical and Archæological Association of Ireland, 289; Dr. Hume's Remarks on the Irish Dialect of the English Language, 349, 367; Stanley's Treatise on Mathematical Drawing Instruments, &c., 350; Eason's Almanac and Handbook, 1879, 351; Littleton's Hamand and other Poems, 351; The Pantiles Papers, 368; Cassell, Petter, and Galpin's serials, 14, 166, 349, 351; Gardner's serials, 349  
Boulder, what is a? 196, 210  
Bray glebe-house, 257  
Bridge, Britannia, 193; new swing, over the Liffey, 333; new, over Thames, 140; railway, platforms, 94  
Bridges: Indian railway, 150; iron, of large spans, 159; new, over the Liffey, 172, 333  
British Archæological Association, 140, 208  
British Association in Dublin, 218, 240, 241, 242, 245  
British Museum, new MSS. in, 11  
Builder, "jerry," a, sent for trial, 45  
Builders, "jerry," twelve, 240  
Builder's action, a, 367  
Building and furniture, paper, 242  
Building labour and building workmen, 49  
Building made easy, 228  
Building societies, benefit, some points in the law relating to the arbitration rules of, 76  
Building trade, cancer of the, 33  
Building trades, rise of wages in, 77  
Buildings and improvements, Oxford, 309  
Buildings, new, Royal College of Surgeons, 239  
Buildings, diffusion of air in, 301  
Burns Monument, Dumfries, 59

CARPENTER, lines for the, 273  
Carpenters and Joiners' Society, 111  
Casks and staves, 141  
Castle Caldwell Cement Company, 20, 47  
Cathedral: Kilmacduagh, 29; St. Canice's, Kilkenny, 254; St. Mary's Tuam, 305; Christ Church, monuments, 285, 287, 302, 317  
Cement and temperature, 126  
Chairs of some celebrities, 358  
Charlemont's (Lord) demesne, Marino, 123  
Charleville Church, new pulpit and lectern, 273  
Chemistry of dirt, 311  
Church: Presbyterian, Belfast, 4; Armagh, 19; Aghaderg, 29; St. James', Donaghedy, 115; Aghade, 130; Wicklow, 140; St. David's, Naas, 168; Charleville, 273; Christ, Cork, 285; St. Michael's, Limerick, 335; Christ, Belfast, 358.  
Church (Roman Catholic): of the Annunciation, Rathfarnham, 111; St. Paul of the Cross, Mount Argus, 132; SS. Peter and Paul, Kilmallock, 239; St. Canice, Aghahoe, 312  
Church "restoration": anent, 123; St. David's, Naas, 168; a model, 179  
City: Architect, 151; basins, 188; scavenging, 188; blots—Sackville-street and Grafton-street, 116; swamp, a, 352; tree planting in the, 336  
Civil engineers and double commissions, 319  
Civil Service, reform in the, 239  
Cleopatra's Needle, the resting place of, 76; see also "Egyptian obelisk"  
Clerk of works, extravagant salary for a, 290  
Coal gas manufacture, 227  
Coal mines, ventilation of, 359  
Coffee Palace lectures, 285  
Coleraine guardians and the Local Government Board, 296  
Colour-blindness—ships' lights, 328  
Colours, Stanley's fluid professional, 109  
Commission of enquiry into municipal boundaries, 285  
Competition, Midland Great Western Railway, 95  
Concrete house, a, 123  
Concrete cottage construction, 195  
Concrete Town Hall, Arklow, 349  
Concrete and fire-resisting materials, notes on, 196  
Contagion killers and carriers, 66  
Convent chapel, Bantry, 77  
Copestown limestone quarries, 155

Cork: School of Art, 20, architectural cogitations in, 163; Christ Church, 285; harbour works, 179; Harbour Board and Cornish granite, 311  
Corporation: and Public Health Bill of 1877, 19; and the gas works, 167; and its parental powers, 199; and its sanitary duties, 232  
Correspondence, 11, 20, 59, 82, 108, 132, 167, 179, 196, 210, 227, 240, 248, 285, 302, 316, 325, 353  
Correspondents, To (see each number)  
Cottage, concrete, construction, 195  
Country, health of the, 17  
Court House, Maryborough—a ladder wanted, 166  
Cows, the sham usefulness of, 182  
Crookhaven Harbour, wreck in—more red tape, 319  
Cunningham Prize Fund—Royal Irish Academy, 210  
DESIGN, remarks introductory to the study of, 89  
Didot, M. A., library of, 182  
Dock and harbour works, Whitehaven, 347  
Dock and port improvements, Dublin, 65, 256  
Dogs, the three, 211  
Donaghedy Church, 115  
Doran, Dr. John, F.S.A., the late, 46  
Drain, diary of a, 70  
Drainage, 73; Drumcondra, 43; and navigation of the Shannon, 255; and doctors in Dundalk, 141; of fen lands and river conservancy, 299; of Maryborough, 336; plans, alleged defective, 11  
Drainage, main: of Dublin and suburbs, 82, 115, 357; of Rathmines and Pembroke, 153  
Drawing, importance to artisans of acquiring a knowledge of, 264, 280  
Drawing and technical instruction, a plea for, 294  
Drawings at South Kensington, 241  
Drogheda, the Magdalen Tower, 59  
Drumcondra, Glasnevin, and Clonliffe Township, 30, 43, 79, 151, 269, 364  
Dublin: mortality in, 14; health of, 27, 241; artisans' dwellings in, 18, 353; ancient muniments and municipal records, 41; railways, tramway extensions, and street traffic, 50; port and dock improvements, 65, 256, 352; main drainage of, 82, 115, 357; phases of progress and decay in, 129; municipal government in, 157, 171, 185; British Association in, 218, 240, 241, 242, 245; new Science and Art Museum, 262; geology of, and its environs, 272; unsanitary surroundings of, hospitals, 321; working of the sanitary act in, 337; and its death-rate, 347  
Dublin Amateur Artists' Society—amateur art, 369  
Dublin Sanitary Association and other workers, 186  
Dublin School of Art, 202, 241  
Dundalk, drainage and doctors in, 141  
Dwelling houses, College Gardens, Belfast, 174  
Dwellings, artisans', Dublin, 18, 353  
Dwellings, artisans', plans for, 52  
Dwellings, artisan, schemes, revelations of, 226  
Dynamite, power of—stone quarrying, 208  
Dynamo-electric apparatus, 44  
ECCLESIASTICAL art-work, 106  
Eddystone Lighthouse and the Mercantile Marine Fund, 299  
Edison's wonderful inventions, 236  
Education, technical: 167, 365; in Belfast, 70; and the architect and artisan, 339; scientific and, 350  
Egyptian obelisk, 86; see also "Cleopatra's Needle"  
Electric light: hubbub, 344, future of the, 363; and the London smoke nuisance, 341; see also "Dynamo-electric"  
Electricity, gas *versus*, 303  
Embankments of the River Thames, 124  
Engineer, Midland Great Western Railway Company and their, 262  
Engineers, civil, and double commissions, 319  
English and Irish departments, 316  
English architects in Ireland, 357  
English artisans at Paris Exhibition, 218  
Engravers, Irish: 240; of the eighteenth century, 215  
Enigma, 13, 29, 46  
Epidemics, 66  
Exhibition: Dublin Amateur Artists' Society, 369; Royal Hibernian Academy, 130; Melbourne, 309; Paris, 106, 130, 138, 218, 348  
Explosion in a foundry, 132  
Explosions: boiler, 141; gas, prevention of, 179  
FACULTIES, undeveloped mental and physical, 97  
Fen lands, drainage of, and river conservancy, 299

Ferguson, Samuel, 68; see also "A too rare voice"  
Fine arts, Government and the, 151  
Fire at Richmond Lunatic Asylum, 84  
Fire-resisting materials, notes on concrete and, 196  
Fluid colours, Stanley's, 109  
Fogerty, William, architect, the late, 163  
Footlights, stage, 268  
Forward, a look, and a glance back, 1  
Foundry, explosion in a, 132  
Furniture and building, paper, 242  
"Furniture-designing architects," 52  
  
GALLEY Head Lighthouse, County Cork, 216  
Gas : manufacture of, 227; without works or meters, 132; illuminating, from water or sewage, 201; *versus* electricity, 303; see also "Electric light"  
Gas explosions, prevention of, 179  
Gas trading, the machinery of, 11, 228, 317  
Gas works, the Corporation and the, 167  
Gas-oil lamp—the "Orion," 241  
G. P. O.—a reminiscence, 79  
Glasnevin, St. Vincent de Paul's Orphanage, 207  
Glasgow University, beating and ventilating apparatus at, 363  
Glass sideboard, colossal, 310  
Glebe-house, Bray, 257  
Grafton-street—city blots, 116  
Granite, Irish, in Paris, 310  
Granite, Cornish, and Cork Harbour Board, 311  
Graves, Dr., statue of, 14  
Greek and Roman art, 6, 25, 37, 57, 73  
Griffith, Sir R., Bart., C.E., death of, 280  
  
HANDRAILERS, a query for, 248, 269, 303, 317, 326, 353  
Harbour works: Arklow, 369; Belfast, 336; Cork, 179; Crookhaven, 319; Whitehaven, 347  
Harbour marks, sea and, 174, 191, 219, 250, 270  
Hayes, Michael Angelo, R.H.A., 4  
Health: of Dublin, 14, 27, 241, 347; of the country, 17; questions, 360; and sewage of towns, 140; see also "Public Health"  
Heating appliances at Clongowes Wood College, 3  
Heating and ventilating apparatus of the Glasgow University, 363  
Helouan-le-Bains, 212  
Hibernian Bank, Lower Sackville-street, 188  
Holywood National Schools, 20  
Hospitals, Dublin, unsanitary surroundings of, 321  
House, a concrete, 123  
House construction and sanitary science, 155  
House furniture manufacture, 291  
Houses, College Gardens, Belfast, 174  
Houses, roomy and unroomy, some thoughts on, 307  
Houses of Parliament, Melbourne, 277  
Howth and its antiquities, 295  
  
IMPROVEMENT of Arklow Harbour, 309  
"Improvement" bill, our last, 11  
Improvements: long-pending, 193; Dublin port and dock, 65, 256; at Oxford, 309  
Indian railway bridges, 150  
Institution of Civil Engineers of Ireland, 54, 173  
Institution of Civil Engineers, London, 41, 254, 173  
International congress of architects, 241  
Inventions, Edison's wonderful, 236  
Ireland: documents relating to, in the thirteenth century, 13; national monuments of, 217, 259, 275; public works in, 227, 235, 245, 267; rainfall of, 284; river regulation in, 279; English architects in, 357  
Irish architects and the Royal Institute of British Architects, 247, 268  
Irish artisans and exhibits at the Paris Exhibition, 130, 144, 357  
Irish Board of Works, the, 208; administration, 231, 249, 260, 276, 292, 308, 324, 340  
Irish engravers: 240; of the eighteenth century, 215  
Irish and English departments, 316  
Irish granite in Paris, 310  
Irish lighthouses, inspectorship of, 312  
Irish music and musicians—Balfé memorial, 173  
Irish national theatre, an eighteenth-century project of an, 310  
Irish sanatorium, the, 218  
Irish slates, 84  
Irish stage, notes on the early history of the, 9, 28, 38, 53, 75, 93, 101, 118, 137, 149, 158, 181, 194, 203, 220  
Iron bridges of large spans, 159  
  
"JERRY" builder, a, sent for trial, 45  
"Jerry" builders, twelve, 240  
Journalism and literature, amateur, 78  
  
KILBURN, William, workman, artist, and manufacturer, 356  
Kilkenny: interviewed, 248; St. Canice's Cathedral, 254  
Kilmacduagh Cathedral, 29  
Kilmallock, SS. Peter and Paul's Church, 239

Kingstown: Magdalen Asylum, 163; Town Hall, 326, 349  
  
LABOUR and wages, 369  
Labour, building, and building workmen, acent, 49  
Labour, skilled, and "genteel" pursuits, 355  
Lagan river and harbour of Belfast, 336  
Landed property, the Irish Beresfords and their, 226  
Lands, fen, drainage of, and river conservancy, 299  
Law—Cavanagh v. Gabbett, 44; Moore v. Belfast Harbour Commissioners, 100; Carlisle v. London and North Western Railway Company, 100; Bolton v. Webb and Co., 211; Sharp v. Lady Charleville, 211; Hughes v. Athy Board of Guardians, 211; Attorney-General v. Bray Commissioners, 225; Attorney-General at relation of R. H. Davis v. Bray Commissioners and Bray Pavilion Company, 239; Rooney v. Curran, 257; Cullen v. governors of Adelaide Hospital, 336; Martin and Son v. Hague, 367; Hallinan v. Fosberry, 367; Coates v. Joyce, 367; Moore v. Winter, 367  
Lectures on architecture, 69, 85, 102, 121, 136, 152, 164  
Lectures at the Coffee Palace, 285  
"Lia Fail," or stone of destiny, 108  
Library of M. A. Didot, 182  
Liffey: cleansing, 240; nuisance, 151; new bridges, 172, 333  
Lighthouse, Galley Head, 216  
Lighthouses, Irish, inspectorship of, 312  
Lighting topics, 368  
Limerick: trades' unionism in, 202; St. Michael's Church—stained glass, 335  
Limestone quarries, Copestown, 155  
Lines for the carpenter, 273  
Literature: and journalism, amateur, 78; trade union, 100; unprofessional, 211  
Liverpool, proposed overhead railway at, 14  
  
MACDONNELL (Sir A.) statue, 222  
Macmanus, Henry, R.H.A., death of, 111  
Magdalen Asylum, Kingstown, 163  
Magdalene Tower, Drogheda, 59  
Main drainage: scheme, 115; of Dublin and suburbs, 82, 357; Rathmines and Pembroke, 153  
Marino demesne, Lord Charlemont's, 123  
Maryborough: drainage of, 336; Court House—a ladder wanted, 166  
Masons' strike in London, 100  
Medical sanitarians and architects, 130  
Melbourne: Houses of Parliament, 277; Exhibition Building, 309  
Memorial, Balfe, 173, 210  
Memorials of St. Stephen's-green, 81  
"Men of the time," 326  
Mental and physical faculties, undeveloped, 97  
Mercantile Marine Fund and the Eddystone Light-house, 299  
Microphone, inventor of the, 208  
Midland Great Western Railway: competition, 95; and the engineer, 262  
Mill (J. S.) statue, Westminster, 59  
Mineral white pigment, 274  
Monasterboice, alleged Vandalism at, 335  
Monument, O'Connell, latest phase of the, 182  
Monuments: in Christ Church Cathedral, 285, 287, 302, 317; national, of Ireland, 217, 259, 275, 287  
Mortality in Dublin, 14  
Mud cabin, the, in history and architecture, 323  
Municipal apothecis, the, 326; boundaries, commission of enquiry into, 285; elections and reform, 325; finances, 14; government in Dublin, 157, 171, 185; legislation and expenditure, 365; mems., 151; ancient records and muniments, 41  
Mural painting, 186, 207  
Museum: of the Royal Historical and Archaeological Association, 248; new Science and Art, 212, 301, 349; British, new MSS. in, 11  
Music and musicians, Irish—Balfe memorial, 173  
Mycenæ, Troy, and Ephesus, 183, 194, 204, 223  
  
NAAS, St. David's Church, proposed restoration of, 168  
National monuments, Ireland, 217, 259, 275, 287  
National Schools, Holywood, 20  
Navigation and drainage of the Shannon, 253  
Navigation, Bann—proposed works, 366  
Newspaper cuttings of forty years ago, 254  
New year rhyme, a, 4  
Notes, home and foreign (see each number)  
Notes, provincial—sanitary and sundry, 146  
Notes of works, 123, 290, 310, 353, 368  
Nuisance, is an ash heap a? 82  
  
OBITUARY—Michael Angelo Hayes, R.H.A., 4; James Pain, 4; Sir W. R. Wilde, 4; Dr. W. Stokes, 18; Dr. Doran, F.S.A., 46; W. R. Stephens, 62; Sir Gilbert Scott, 109; Henry Macmanus, R.H.A., 111; John Sibthorpe, 130; William Fogerty 163; Professor Thomas Oldham, 225; John O'Daly, 225; Sir R. Griffith, Bart., C.E., 280; G. P. Bidder, C.E., F.R.S., 289; F. P. Cockerell, 333; Mr. Summers, 333; Robinson Carolin, 349; T. Bridgford, R.H.A., 353  
  
O'Connell monument, latest phase of the, 182  
O'Daly, John, the late, 225  
Oldham, Thomas, F.L.D., F.R.S., death of, 225  
Ollam Fodlab: 84, 124; who was, and from whence did he come? 82  
Order, a quaint, 181  
Organ, Wicklow church, 140  
"Orion" gas oil lamp, 241  
  
PAIN, James, architect, the late, 4  
Painting, mural, 186, 207  
Paper building and furniture, 242  
Paris, Irish granite in, 310  
Paris Exhibition: 106, 138; Irish exhibits and artisans at, 130, 144, 357; English artisans at, 218; architecture at, 348  
Parsonage, Malone, Belfast, 358  
Paving: street, 151; experiments in, 312  
Pembroke and Rathmines main drainage, 153  
Phonograph, the, 58, 154, 165  
Physical and mental faculties, undeveloped, 97  
Pigment, new mineral white, 274  
Plans: drainage, alleged defective, 11; for artisans' dwellings, Midland Great Western Railway, 52  
Platforms, railway bridge, 94  
Port and dock improvements, Dublin, 65, 256  
Portland cement and temperature, 126  
Premises, new, Lombard-street, Belfast, 328  
Presbyterian church, Belfast, 4; Armagh, 19  
Prince Consort statue, Cambridge, 59  
Printing and publishing in Ireland, notes on the rise and progress of, 5, 21, 34, 50, 67, 91, 98, 114, 135, 160  
Progress and decay in Dublin, phases of, 129  
Provincial notes—sanitary and sundry, 146  
Public health: in Dublin, 14, 27, 241, 347; unsanitary architecture and, 113; sewage and, 117; future of, 272; questions, 360; see also "Health"  
Public Health (Ireland) Bill, 45; and the Corporation, 19  
Public road, encroachment on a, 367  
Public works in Ireland, 227, 235, 245, 267  
Pulpit and lectern, Charleville Church, 273  
Pulsometer, the, 30, 278  
Pumping engines and pumps, 111  
  
QUAINT order, a, 181  
Quarries, limestone, Copestown, 155  
Quarrying—power of dynamite, 208  
Queenstown, doings in, 143  
  
RAILWAY: bridge platforms, 94; bridges, Indian, 150; directors, verdict of manslaughter against, 294; overhead, at Liverpool, 14; Midland Great Western competition, 95; Rio Tinto, Huelva pier of, 122; and tramway projects, 58  
Railways, tramway extensions, and street traffic, Dublin, 50  
Rainfall of Ireland, 284  
Rathfarnham, new Church of the Annunciation, 111  
Rathmines and Pembroke main drainage, 153  
Red tape, more, 319  
Restoration: architectural, re art and, 109; church, 123, 179; St. David's Church, Naas, 168; thoughts on, 111  
Richmond Lunatic Asylum Hospital, destruction of, 84  
River: conservancy and drainage of fen lands, 299; pollution, 166; regulation in Ireland, 279  
Roman and Greek art, 6, 25, 37, 57, 73  
Rotundo Lying-in Hospital, 27  
Round tower, key of a, 62  
Royal College of Science for Ireland, 79  
Royal College of Surgeons—new buildings, 239  
Royal Dublin Society, 13, 84, 108, 141, 182, 336  
Royal Hibernian Academy: 110; Exhibition, 130  
Royal Historical and Archaeological Association of Ireland, 248  
Royal Institute of the Architects of Ireland, 20, 29, 248; conference, 46, 59  
Royal Institute of British Architects, 29, 46, 116, 182, 285, 333, 351; Irish architects and, 247, 268; President's address, 359  
Royal Irish Academy, 36, 61, 75, 105, 146, 166, 242, 335, 368; and the Cunningham Trust Fund, 52, 210  
Rule of thumb, the, 289  
  
SACKVILLE-STREET—city blots, 116  
St. Canice's Cathedral, Kilkenny, 254  
St. Canice's Church, Aghaboe, 312  
St. David's Church, Naas, restoration of, 168  
St. Donagh's, Co. Dublin, 228  
St. James' Church, Donaghedy, Derry, 115  
St. Mary's Cathedral, Tuam, 305  
St. Michael's Church, Limerick, 335  
St. Paul of the Cross Church, Mount Argus, 132  
St. Stephen's Green, 108; memorials of, 81  
St. Vincent de Paul Orphanage, Glasnevin, 207  
SS. Peter and Paul's Church, Kilmallock, 239  
Sales, forthcoming, 188  
Sanatorium, the Irish, 218

Sanitary : matters in Stradbally, 62 ; and unsanitary agents—street trees, 146 ; notes, 146, 166 ; science and house construction, 155 ; state of Ardee, 169 ; the Corporation and its duties, 232 ; co-operation 304 ; precautions in the north, 364  
 Sanitary Act : and its defects, 188 ; working of in Dublin, 337  
 Sanitary officer : depicted, 203 ; fined, 244  
 Sanitary -unn : agents, 146 ; surroundings of Dublin hospitals, 321  
 Sanitarians, medical, and architects, 130  
 Sanitation and ventilation at the Synod Hall, 144  
 Scavenge, tramway, system, 20  
 Scavenging, city, 188  
 School of Art : Cork, 20 ; Dublin, 202, 241, 310  
 School-house : an unsanitary, 217 ; anent a national, 202  
 Schools, national, Holywood 20  
 Science and Art Museum, the new, 202, 212, 262, 301, 349  
 Scientific and technical education, 350  
 Scott, Sir Gilbert, R.A., the late, 109  
 Scroll or newel (see "Handrailleurs")  
 Sea and harbour marks, our, 174, 191, 250, 219, 270  
 Sewage : difficulty, solution of, 46 ; and the public health, 117 ; and health of towns, 140 ; or water, illuminating gas from, 201 ; discharge of, into the sea, 236, 284, 303  
 Sewers, ventilation of, 234  
 Shannon navigation and drainage, 253  
 Ships' lights—colour blindness, 328  
 Skilled labour and "genteel" pursuits, 355  
 Slates, Irish, 84  
 Smoke nuisance, London, electric light and, 341  
 Social Science congress, Cheltenham, 285, 315, 320  
 Society of Arts—industrial education, 365  
 Sound, Prof. Tyndall on, 248

South Kensington, drawings at, 241  
 Stage : footlights, 268 ; see also "Irish stage"  
 Stained glass, St. Michael's Church, Limerick, 335  
 Staircase band of the old school, the, 213  
 Statues and monuments—Dr. Graves, 14 ; J. S. Mill, 59 ; Prince Consort, 59 ; Robert Burns, 59 ; Sir A. Macdonnell, 229  
 Staves and casks, 141  
 Steam boilers for high pressures, 152  
 Stephens, W. R., the late, 62  
 Stock Exchange, new, 336 ; stucco work at, 369  
 Stokes, Dr. William, the late, 18  
 Stone quarrying—power of dynamite, 208  
 Stone of Destiny, 108, 124  
 Street : cleansing, 11 ; paving, 151 ; trees, 146 ; traffic, railways, tramways, and, 50 ; architecture, 318  
 Streets, state of our, 68, 193  
 Strike of London masons, 100  
 Stucco work at new Stock Exchange, 369  
 Synod Hall, ventilation and sanitation at, 144

TECHNICAL education : 167, 350, 365 ; in Belfast, 70 ; a plea for, 294 ; and the architect and artisan, 339  
 Telephone, origin of the, 93  
 Tenders, 63, 79, 141  
 Thames : embankments, 124 ; new bridge over, 140  
 Theatre : an eighteenth-century project of an Irish national, 310 ; on the desirability of obtaining a national, 327, 343  
 Timber : trade, 305 ; clippings, 337  
 Town Hall : Arklow, 349 ; Kingstown, 326, 349  
 Towns, health and sewage of, 140  
 Trade, building : cancer of, 33 ; rise of wages in, 77  
 Trades union : literature, 100 ; congress, 240, 286, 296  
 Trades unionism : 300 ; in Limerick, 202

Tramway : scavenge system, a, 20 ; extensions, street traffic, and railways, Dublin, 50 ; and railway projects, 58 ; purchase of lines, 151  
 Tramways : state of our, 212 ; improved system of laying down, 227  
 Tree planting in the city, 336  
 Trees, street, 146  
 Tuam, St. Mary's cathedral, 305

UNSANITARY architecture and public health, 113  
 Unsanitary school-house, an, 217  
 Unsanitary surroundings of Dublin hospitals, 321  
 Unsanitary and sanitary agents—street trees, 146

VANDALISM, alleged, at Monasterboice, 335  
 Vartry water, action of, on boilers, 271  
 Ventilating and heating apparatus at Glasgow University, 363  
 Ventilation : of sewers, 234 ; of coal mines, 359 ; and sanitation at Synod Hall, 144  
 Viceregal state carriage, the, 108

WAGGS : and labour, 369 ; rise of, in the building trades, 77  
 Wanted to know, 294  
 Warehouse, Merchant's-quay, Waterford, 294  
 Water : main, bursting of a, 115 ; supply to North Union Workhouse, 268 ; or sewage, illuminating gas from, 201  
 Wicklow church organ, 140  
 Wilde, Sir W. R., 4  
 Workmen, building : and labour, 49 ; and others, a word to, 294  
 Wreath, writhe, or twist (see "Handrailleurs")  
 YOUGHAL, the Council Book of, 309

## LIST OF ILLUSTRATIONS.

|  | Page |   | Page     |
|--|------|---|----------|
| New Presbyterian Church, Ballymacarrett, Belfast . . . . .                               | 7    | Dwelling Houses, College Gardens, Belfast . . . . .                     | 176, 177 |
| Parochial National Schools, Holywood, Co. Down . . . . .                                 | 23   | The Unitarian Church, St. Stephen's Green . . . . .                     | 189      |
| Cottages for Midland Great Western Railway Company . . . . .                             | 39   | Addition to St. Vincent de Paul's Male Orphanage<br>Glasnevin . . . . . | 205      |
| Artisans' Dwellings, Midland Great Western Railway<br>Company . . . . .                  | 55   | Galley Head Lighthouse and Keeper's Dwellings, Co. Cork . . . . .       | 221      |
| Firmount, Naas, County Kildare . . . . .   | 71   | New Catholic Church, Kilmallock . . . . .                               | 237      |
| Design for Memorial Altar . . . . .  | 87   | Glebe House, Christ Church, Bray . . . . .                              | 251      |
| National Bank, Millstreet . . . . .  | 103  | Design for Villa Residence, Delbrook Park, Dundrum . . . . .            | 265      |
| St. James's Church, Donaghedy, Derry . . . . .   | 119  | The Pulsometer, or Direct-acting Steam Pump . . . . .                   | 278      |
| North-east View of Presbytery, John-street, Dublin . . . . .                             | 119  | Design for the Houses of Parliament, Melbourne . . . . .                | 281      |
| The Magee College, Londonderry . . . . .   | 133  | New Warehouse, Merchants'-quay, Waterford . . . . .                     | 297      |
| Royal College of Physicians, Kildare-street—Exterior<br>and Interior . . . . .           | 147  | Melbourne Exhibition, 1880—Accepted Design . . . . .                    | 313      |
| New Magdalen Asylum and Laundry, and Proposed<br>Convent and Chapel, Kingstown . . . . . | 161  | New Premises, Lombard-street, Belfast . . . . .                         | 329      |
|  |      | Town Hall and Court House, Kingstown . . . . .                          | 345      |
|  |      | New Parsonage, Malone, Belfast . . . . .                                | 361      |

# THE IRISH BUILDER.

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Arts and Handicrafts.

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[Vol. XX.

## Illustration.

NEW PRESBYTERIAN CHURCH, BELFAST.

## Contents.

|   | Page |
|---|------|
| A GLANCE BACK AND A LOOK FORWARD .. ..  | 1    |
| New Heating Appliances at Clongowes Wood College ..   | 3    |
| New Presbyterian Church, Belfast .. ..  | 4    |
| The late Michael Angelo Hayes, R.H.A. .. ..   | 4    |
| A New Year Rhyme .. ..  | 4    |
| The late Mr. James Pain, Architect .. ..  | 4    |
| In Memoriam—The late Sir William R. Wilde, M.R.I.A.   | 4    |
| Notes on the Rise and Progress of Printing and Publish-<br>ing in Ireland—Thirteenth Part .. .. | 5    |
| Greek and Roman Art—Their Connexion with the<br>Teaching of the Classics.—Lecture III. .. ..    | 6    |
| Notes on the Early History of the Irish Stage .. ..   | 9    |
| Alleged Defective Drainage Plans .. ..  | 11   |
| New MSS. in the British Museum .. ..  | 11   |
| Street Cleansing .. ..  | 11   |
| Correspondence—Our Last "Improvement" Bill; The<br>Machinery of Gas Trading .. ..               | 11   |
| Adversaria Hibernica—Literary and Technical .. ..   | 12   |
| The Royal Dublin Society .. ..  | 13   |
| Enigma .. ..  | 13   |
| Documents Relating to Ireland in the Thirteenth Century   | 13   |
| Mortality in Dublin .. ..   | 14   |
| Books Received .. ..  | 14   |
| The Statue of the late Dr. Graves .. ..   | 14   |
| The Proposed Overhead Railway at Liverpool .. ..  | 14   |
| Municipal Finances .. ..  | 14   |
| Home and Foreign Notes .. ..  | 15   |
| To Correspondents .. ..   | 15   |

## A GLANCE BACK AND A LOOK FORWARD.

THE past year in this country was not marked by any great improvements or reforms in any of the several fields of our advocacy. Much of what was written in our opening address a twelvemonth ago might be repeated without materially affecting matters as they stand at present, for our progress in general is still slow, and trade of late in most branches has been suffering from the lack of its usual stimulants. In the building and cognate branches in Ireland activity was not at all of a marked kind during the late year, and new works of magnitude we had none to chronicle, those calling for notice being works in progress more than once alluded to. Dwellings of the domestic kind there have, of course, been many erected in the metropolis and throughout the provincial towns; but good buildings, even of this class, have fallen far short of the number of former years. In some quarters the speculative class of builders were busy, but their operations deserve more condemnation than praise; and, if the truth should be told, buildings of this kind are not improvements, but the reverse. Church building and "restoration" to some extent still continue over the country, and several of those churches in course of erection by the Catholic community evidence good design and workmanship, but their progress towards completion is neces-

sarily slow, owing to their cost having to be defrayed by donations and subscriptions.

In our review of the annual report of the Board of Public Works in Ireland, we noticed the improvements that have been completed or in progress under the Board, and some of them were of a nature to command attention, and to deserve the name of real improvements, even in cases where they were but small in extent. Under the operations of the Board of Public Works some progress of late has been plainly visible in the matter of agricultural dwellings and farm buildings and holdings. We must, however, again point out that on the whole the improvements are limited in extent, and throughout the four provinces the dwellings of the agricultural labourers are a scandal to the age. Many landed proprietors, without much expenditure, could materially improve not only the housing of their labourers, but their estates, by works of drainage and reclamation, and thereby increase their incomes, while elevating the condition of the working poor. Though there is no legal obligation on the part of wealthy landed proprietors to do good for others while benefiting themselves, still there is a moral obligation which should not be ignored, particularly by a class of men who are always in a position to perform such a duty.

The Port and Docks Board have been for some years back prosecuting some indispensable and necessary works of harbour improvement and extension. These works are certainly deserving of praise, and have been efficiently carried out by the able engineer of the Board. The concrete blocks, their handling and laying in the North Wall extension, have conclusively proven the value of the material used, and the ability of the engineer who is still superintending the work. This Dublin harbour work has attracted particular attention on the part of professional men outside this country as well as within it, and Mr. Gladstone during his recent visit was enabled to see and testify to the efficiency of the work of harbour improvement in Dublin.

We may shortly, we hope, expect to see the re-building of Carlisle Bridge and the erection of the new bridge further down the river, under the joint action of the Port and Docks Board and the Corporation. These last improvements a reference to our back volumes will show are long years in agitation, and this journal has never ceased for years to urge the commencement of these urgent public wants.

The Corporation of Dublin still pleads want of funds to commence and prosecute needful works of improvement and reform. We are not so inconsiderate as to deny that there are not difficulties in the way of the municipal body, but it cannot be denied on the other hand that very large sums of money have been wasted to no good purpose by our civic rulers. In the matter of Artisans and Labourers' Dwellings, the movement has advanced somewhat since this time last year, but we cannot help thinking that there has been either great neglect or unnecessary delay in taking the proper steps for carrying out the provisions of a really important act, intended not only for the benefit of the working classes, but for the common weal.

The sanitary state of Dublin has not materially improved during the late year, though many minor nuisances have been abated by prosecutions instituted against the evil doers. The voluntary labours of the Dublin Sanitary Association have helped towards this good end, but there has been a want of zeal and earnestness in commencing and performing absolutely requisite sanitary works. Spurts now and again will never accomplish satisfactory labour. In connection with the Corporation there is much that might be usefully written—questions having an important bearing upon the educational and social elevation of the people.

We would like to see the Free Library question settled, and Dublin placed on the same footing in this matter as other English cities and towns. Though we are advocates for the establishment of a Free Library in this city, we would prefer first to see the long urgent sanitary reforms carried out, of which the city stands so much in need. We write in no party and prejudiced spirit when we say that the composition of the Corporation at present, or during late years, is not of a kind from which reforms are likely to come. A large number of the representatives can never be truly representatives of the people, and they lack the practical knowledge, manners, and capacity, for organisation and work, which is essential for men in their position. Politics and religion are not fit subjects for debate in a Corporation, and should never be introduced save incidentally and when unavoidable. There is such a thing as practical politics which is always admissible, but party politics and sectarian strife are different matters altogether. The Local Government Board Inquiry in Ireland brought to light several anomalies and abuses in connection with the management of our Corporation and other kindred bodies—abuses which, we trust, will be soon swept away, for while they are allowed to exist, evils and mismanagement and a waste of public moneys must continue.

Throughout the year we had occasion to allude more than once to the proposed Science and Art Museum, and how the Government scheme affected two of our

oldest native institutions—the Royal Irish Academy, and the Royal Dublin Society. The Academy made a good battle for its self-government, and while making an important concession in regard to its library and treasures, achieved its purpose by securing the re-transfer of its vote to the charge of the Irish Government, and keeping its collections distinct and under the management of the Academy. These and other claims conceded by the Government to the Academy were worth securing. The Royal Dublin Society during the late year has accommodated itself to the Government scheme, and all its departments are undergoing a change. The historic Royal Dublin Society School of Art is now the Metropolitan School of Art, and other departments have undergone a re-organisation. The meetings of the society now and in future for the discussion of subjects connected with science, pure and applied, will be held in three sections. As we quite recently published the report of the new Royal Dublin Society, detailing the changes, it is not necessary to repeat them. Some of the new arrangements designed for the better working of the internal business of the Society will, if efficiently carried out, result in good work. It is too soon yet to speculate as to the future of the agricultural results likely to ensue from interests formerly so closely associated with the history of the Society, but which henceforward will have only a partial attachment. Throughout the late year, however, many useful papers were read both in the Academy and the Society, and discussions took place evidencing scientific and literary activity.

Of other institutions in Dublin there is nothing very special to say. The Royal Hibernian Academy still pursues its ordinary course, but the general public hears little of its operations, though it is still gratified by witnessing its annual exhibition of "Painting, Sculpture, and Architecture." The Fine Arts in Ireland are not in a healthy or vigorous state, nor are the few native artists or other practising artists who still cling through weal and woe to their art in this country, in a prosperous way. There are several Irish artists whose works were seen from time to time on the walls of the Irish Academy, whose lot is not cast with their countrymen, and who perforce are obliged to seek the patronage that may often be found in the sister kingdom, but not often at home. Scottish artists of late years are showing Englishmen and Irishmen that they can associate and hold together, but the spirit of brotherhood in art directions in Ireland is weak indeed at present.

Of the Royal Institute of Architects we scarcely know what to write with truth. It has not for a considerable time back given much evidence of active life and industry. The council at present, as may be seen in our advertisement columns, are offering for competition some prizes, open to architectural students in this country for the production of a useful work in an architectural direction. We had some strong hopes a few short years since that, with an Irish Institute and a Dublin as also a Belfast Architectural Association in existence, good results would soon be apparent. For a time useful labour was accomplished by the young associations, but shadows came—the rest has been told already in our columns. There ought to be sufficient brotherhood and love of their art among the architects of Ireland, to sup-

port at least one central and representative Institute of Architects.

The Irish Institution of Civil Engineers has during the late year signalised its meetings by some excellent papers, which we reproduced. Its members show their interest in their representative body by holding together, thus affording their brethren of the Architectural profession a good example of earnestness in their work. The Royal Geological Society, also, continues its useful labours, and its proceedings should command more attention on the part of architects, engineers, and workmen, for the study of practical geology has an important bearing upon sound building. A good knowledge of the nature and properties of various kinds of stones, sand, clays, is needful to the modern architect and builder.

The arranged-for meeting in Dublin in the course of the year of the British Association for the Advancement of Science is looked forward to with a considerable degree of interest. It cannot prove otherwise than useful in various ways, and may lead to business as well as intellectual and scientific activity in the capital, if not throughout the provinces.

We have on several occasions continued to draw particular attention to the crying want of a Building Act for Dublin, with the view not only of putting an end to building irregularities, but of enforcing sanitary requisites. The want of a stringent Building Act is a severe want, for owing to its absence nefarious practices are rife among the unprincipled class of speculative builders who "build to sell," and, unfortunately, too surely build also to kill. The Royal Institute of Architects moved once or twice in the matter, and it was promised the assistance of the municipal authorities; but the important question still hangs in abeyance, while serious evils increase. The Metropolitan Board of Works, London, have promoted a Building Bill during the year, and possibly in the next session of Parliament it may pass into law. The English Local Government Board will also most likely re-introduce their Public Health (Metropolis) Bill in an amended form designed to meet similar building abuses. The provisions of these acts, like the Artisans' Dwellings Act, will, we hope, be applied to Ireland, if a distinct bill is not pushed forward to meet the local circumstances of this city.

We had no serious strikes or lock-outs to chronicle in the building or kindred trades in Ireland, like those agitating the public mind in the sister kingdom; nevertheless, the causes that disturb the labour market in England affects to some extent the trade of this country. If the price of labour and materials rise in the sister kingdom, we cannot look upon the occurrence with unconcern, for both countries are closely connected by trade interests. Prosperity in England leads to more activity here in many branches, and depression in this country in the building and other trades means also depression to some sensitive extent in kindred trades in the sister kingdom. Building materials are imported into Ireland from England and Scotland, and they also form articles of export from our shores into the sister kingdoms.

The advantages of a technical education for our workmen have often been descanted upon in these columns, and existing facilities by which such knowledge at a very cheap

cost could be obtained in this city and other provincial cities, pointed out. In Dublin, Cork, Belfast, and some other places there exist Schools of Art in connection with the South Kensington Department, and in these schools students and pupils, young apprentices and working men, and those intended for other callings can acquire a practical knowledge of architectural and mechanical drawing, and other forms of drawing, modelling, and painting. We do not like to write hard words of our artisans, but we certainly think that our apprentices and young men of the building branches in Dublin are most remiss, and it is not at all to their credit that they so blindly, if not wantonly, neglect the opportunities they are offered. A time may come when they will find their places supplied by strangers, for competition is becoming fierce, and in the battle of skilled labour the workman who possesses technical knowledge will have the advantage, for he will work efficiently and with less labour to himself, and with a consequent benefit to those who may employ him.

The subjects of the preservation of our National Monuments, and the preservation of the Irish language attracted attention and elicited discussion during the past year, and both met at our hands particular notice and earnest advocacy. We would like to see the number of National Monuments considerably augmented which have been placed under the care of the Board of Works. The work of preservation is a national duty, and how this work is being performed we have already shown in our notice of the report of Mr. T. N. Deane, the superintendent under the Board of Works.

There were many subjects which agitated the professional and general mind in the sister capital during the late year, which possessed an interest for a large class on this side of the channel. Whether in the region of projects designed for the common weal, or in the fields of science and art, or through the medium of papers read or lectures given in various art and scientific bodies, we devoted space to the production and discussion of a number of the more important of them. The lectures by Professor Barry and others on Architecture and Art, and several of the papers read, and the discussions that took place in the Royal Institute of British Architects and the Architectural Association, were produced in our columns. Whenever space permitted we have endeavoured to do justice to our professional friends across the channel, believing that wherever art is truly served, the worker should be assisted by the public journalist to make his views known to the many, for the common good of all throughout the world. We were glad to see and announce recently that the Royal Institute of British Architects effected some desirable reforms, and that a better future may be hoped for that body in the interests of the profession and the art it represents.

Though in England and Scotland during the year several members were lost to the architectural and engineering professions, death has been sparing of the Irish representatives, and their ranks have been scarcely thinned. During the last month, however, a very old and well-known member of the architectural profession departed in the person of Mr. James Pain, probably the oldest architect in the three kingdoms. Though a native of London the deceased gentleman was for long years well known in the south

of Ireland, and together with his brother, who is dead for several years, enjoyed an extensive practice in former years. Of builders and employers of labour in connection with the building profession we had to chronicle the death of two or three well-known names during the course of the past year.

The reclamation of waste lands, the opening of public parks and city squares, the preservation of open spaces and necessary works of town drainage, have received due attention at our hands in the past year, and will receive the same marked attention throughout the year we are entering. Many of our public roads and streets are in a discreditable state through want of repair and efficient cleansing, and their condition is certainly not at all conducing to public health, or earning the respect of strangers who visit our country.

Though the literature of architecture, engineering, archæology, and sanitary science is yearly extending, Ireland's part is still small at home, in these fields. True the transactions of some of our learned bodies already mentioned are yearly supplying excellent materials; and the proceedings of the Royal Historical and Archæological Society of Ireland, which we duly published from time to time, are generally interesting and valuable in a particular direction.

There is much suggested as well as actually projected work in this country, and particularly in the city; but most of the former is, we fear, unlikely to be embodied for some years to come, judging from the rather slow progress made by our public bodies. Of works projected, some have advanced a little, and others are likely to remain long in hauds. The Main Drainage scheme is still in abeyance, and its surroundings are not very promising. The opening of several new streets or direct routes north and south of the Liffey, and the demolition of dangerous and uninhabitable house property in back streets, courts, and alleys, where disease is nearly always chronic, are works too long projected and long delayed. In fact, since the abolition of the Wide Streets Commissioners little wide street improvements have been made in the old quarters of the city. The architecture of several of our streets has certainly improved within recent years, and several public offices and warehouses, designed by Irish practising architects, evidence a great advancement in design, and a more general knowledge of art principles. Some of our city and suburban churches in the Gothic style, the work of native architects, exhibit a vast improvement in design, compared with those erected in the last generation. What is wanted in future is health as well as art, sanitary architecture as well as ornamental building. To help towards this end it is necessary that public bodies should provide a good system of sewerage in cities and towns, so that house drainage may be made perfect, and not, as in too many cases it has been found, a mere sham or make-believe. A thorough system of drainage in our new townships, while they are yet in their infancy, should be carried out without delay.

In our northern suburbs—Drumcondra, Glasnevin, and adjoining localities—there is no system of drainage, except of the most partial and primitive kind. The work, however, is projected, and it is likely to be commenced at no distant date. An act for constituting the last-named localities into a new

township is being promoted; and, if the bill should soon become law, a local body would soon exist capable of commencing the necessary works of drainage and other works required.

The gas and water supply questions have been over and over again discussed in our columns, and much still could be written on these questions apart from the disputes between the Corporation and the south Dublin townships. The Vartry supply, so far as it goes, is good, and greatly superior to the canal; but it will need to be greatly increased, and more satisfactory arrangements made with the townships. The gas supply of Dublin is far too dear, and the consumers have not the satisfaction of having a good article supplied them for their money. The illumination at times is wretched, but we may expect shortly that the directors will be convinced that an improvement in the gas supply will conduce to their benefit instead of to their loss. Water and gas are two articles that are indispensable to modern living. Gas might be done without to a great extent, and its place supplied by other forms of illumination; but water is absolutely necessary to mankind, and the purer and the cheaper the supply, the better will be the personal and public health.

And now, by way of finis, we may put in a word or two concerning ourselves and the field of our advocacy—and this without apology. In entering upon the twentieth year of the existence of the IRISH BUILDER we can point back, and with some degree of pride, to reforms initiated and accomplished through our ungrudging assistance and persistent advocacy. Our path has been beset with many difficulties, but we have never sacrificed our principles or prostituted our pages for party ends or personal profit. Were the conductors time-serving, they might have obtained a material support in some quarters which they could not accept at the sacrifice of their principles. We preferred being independent—not, of course, independent of public or professional support honestly tendered, but free to act as our conscience approved, and the slave of no party or clique, or the indiscriminating advocate of everybody and everything. Although our journal is specially devoted to professional interests, we have continuously enlarged the fields of our advocacy in the interests of general readers, and the historical and literary series of articles which have appeared, and are appearing, in our pages, is a proof that we have endeavoured to make our journal interesting to a wide class of readers. As the only journal published in this country devoted to the architectural and cognate building interests, we counted and still count upon the support of the profession. The more support we receive on all sides the greater will be our desire to make the journal worthy of the country and the interests it represents. Hoping that the commercial depression under which the country suffers will soon pass away, and that trade in general will soon revive, and our building industries show an increased activity, we once more wish our readers "A HAPPY NEW YEAR."

THE EXHIBITION PALACE.—On St. Stephen's Day the above building was once more opened as a place of amusement and public resort, under the directorship of the new lessee, Sir Edward Lee. The exhibits, music, and other features, proved very attractive, including the doll show, in connection with which a number of prizes were awarded.

#### NEW HEATING APPLIANCES AT CLONGOWES WOOD COLLEGE.

DURING a brief visit to the Jesuit College at Clongowes Wood last week, we had an opportunity of inspecting the heating apparatus which is being fitted up for the collegiate buildings by Mr. William Baird, of Lower Abbey-street, in this city, the contractor for the work.

Clongowes is situated within four miles of Sallins, a station on the Great Southern and Western Railway. The present college embodies the original structure known as Castle Browne, formerly the seat of Wogan Browne, by whom it was greatly enlarged and improved in 1788, and from whose brother and heir, General Browne, it was purchased and opened as a college for the education of the sons of the Catholic gentry in 1814. The original building (to which additions were made in subsequent years) is a spacious quadrangular structure flanked at the angles by four lofty towers.

This college is, at the time we write, provided with every modern want that such an institution requires—chapel, library, museum, &c.; and if diligent study is imperative on the part of students, on the other hand exercises that conduce to health are here carried out.

Within the past year extensive additions have been made in order to provide suitable accommodation for an increasing number of pupils. One of two new blocks comprises a number of well-ventilated class-rooms and dormitories, whilst another is devoted to the purposes of an infirmary. These buildings have been carried out in somewhat similar style to the old. As a whole, the buildings old and new are rather scattered, though not less suited for their purpose on that account. Without the aid of plans and sections of the various departments which have been heated, it is almost impossible to convey to the reader more than a bare idea of what has been accomplished here in a mass of buildings which presented almost insurmountable difficulties in order to the securing of a comfortable and wholesome temperature throughout.

The clerk of works (Brother Coffey) kindly pointed out and explained the working of the whole system, which is very extensive. We in the first instance inspected the boiler, which has been specially made, as it has to supply heat to between 2,000 and 3,000 feet of pipe, which it does in the shortest possible space of time. It is a saddle boiler, 6 ft. in length and 26 in. wide, with tubes 4 in. diameter across the arch, upon which the fire acts directly. The main circulating pipes are carried from the boiler and along the principal corridor in a brick chamber under the flagging, with small chambers taken to ventilators built into face of wall at regular intervals. By this means the temperature can be regulated to a nicety; and the ventilators or gratings being in the wall, instead of (as is usually the case) on the floor, dust or sweepings is not likely to get down, and in time fill up the chamber. The fresh air is admitted to this from an opening outside the boiler house, and is carried over the brick-work of boiler (getting slightly heated on its way) to chamber in main corridor. By this means a pure supply of heated air can always be admitted into this corridor, which is one of the recreation places for the students in wet weather. The pipes in said chamber feed the pipes in all the different

systems, which are, as we said before, very extensive. They comprise: the public chapel and the entire range of class-rooms on one side of corridor; on the other side, the store-room for the student's trunks, clothes, &c.; new wing, with corridor and two staircases attached; the entire range of class-rooms in new wing, together with the museum. At the extreme end of main corridor is another staircase and gallery, together with music-rooms, all heated. Besides all the parts we have mentioned, the refectory and a large study-hall over same (80 ft. by 32 ft. each) are also heated; in these there are somewhat about 600 ft. of piping. The extreme end of the piping in study-hall is 500 ft. from the boiler, yet owing to the arrangement of valves, the piping in that apartment or in the refectory under can be heated in 30 minutes. This is a capital test of the heating power of the boiler in use. The valves used are manufactured by Mr. Baird, and are of a superior description. The fuel required for the boiler is, we understand, small in quantity being chiefly timber and coal, also some coke the produce of the gas works on the premises. The C.W. speaks in the highest terms of the thoroughly practical manner in which the work was carried out; also of the superior class of tradesmen engaged. The entire was completed in about ten weeks from date of order, and Mr. Baird has been favoured with instructions to proceed further with his system of heating the premises.

After a visit of four hours' duration, and having partaken of the hospitality of the worthy rector and the reverend fathers, we returned to town, much pleased with what we had seen.

#### NEW PRESBYTERIAN CHURCH, BELFAST.

On the 17th ult. the foundation stone of a new Presbyterian church (of which we give an illustration with this issue) was laid in North Ballymacarrett by J. A. Henderson, Esq., J.P. It will occupy a prominent position on the Newtownards-road, in the centre of a rapidly-increasing district. The building will be a parallelogram on plan, with a circular tower attached to one extremity of the vestibule. A commodious vestry-room will be added at the rere. Sittings will be provided for 430 persons on the ground floor, and the galleries will accommodate 270 persons. The church will be entered by wide and lofty doorways, with two others of deeply-recessed columns, having carved caps and moulded bases, above which rest boldly moulded arches and labels. Large mullioned windows with traceried heads will be placed in the front gable over the doorways. The sides of the church will be pierced between the buttresses with coupled windows having trefoil cusped heads. Triple lights in two heights are placed in the transepts. The round tower, which terminates at a height of one hundred feet in a lofty weather vane, will provide, in conjunction with another staircase, ample access to the galleries. All the external walls will be of the local Silurian slate, in random-coursed work, with dressings of Scrabo sandstone. The windows throughout the church will be filled with cathedral glass, of varied tints in lead quarries. The ceilings will be plastered between the tie-beams, which will be stained dark and varnished. The pews, which will be of approved modern form, and all the other

internal joinery will be of pitch pine, stained and varnished. Provision will be made for heating the church by a hot-air apparatus. The builder is Mr. J. Russell, Donegall Pass, and the works are being carried out from the plans and under the superintendence of Messrs. Young and Mackenzie, architects, Belfast. The cost of the church will be about £3,000.

#### THE LATE MICHAEL ANGELO HAYES, R.H.A.

WITH feelings of deep regret we learned this morning that Mr. M. A. Hayes, artist, had met an untimely death. The report is that, yesterday evening, whilst engaged in examining a cistern in the upper part of his house, 4 Salem-place, his foot slipped, causing him to fall head foremost into the cistern, in which there was only a depth of about 7 in. of water. A workman who happened to be in the house at the time found the deceased gentleman in the position described. Surgical aid was quickly provided, but alas! too late.

#### A NEW YEAR RHYME.

A Happy New Year to friends and foes,  
Although it may shortly come to blows;  
For critics are sure to cause some pain—  
They've done it before, and will again!

A Happy New Year to Civic life,  
A riddance of sloth and party strife;  
With plenty of trade, and taxes slight,  
And ample water, and air, and light!

A Happy New Year and greater wealth  
To all, and a better public health,  
Good drainage, and streets kept clear of dirt  
By local rulers of sterling worth!

A Happy New Year to Pioneers—  
Architects proper, and Engineers,  
Aided by Builders and Craftsmen true,  
Workmanlike, acting as they should do!

A Happy New Year! and may it rise  
Brighter each season, until it dies!  
And may our Reforms be truly great  
In Eighteen Hundred and Seventy-Eight!

A Happy New Year to readers all—  
Professional, general, great and small,  
Including ourselves, if none will object,  
To an IRISH BUILDER and Architect!

#### THE LATE MR. JAMES PAIN, ARCHITECT.

On the 13th ult., died at his residence in Limerick, at the age of ninety-seven, Mr. James Pain, one of the oldest, if not the oldest, architect in the United Kingdom. The deceased gentleman was born in London, of a well-known family distinguished in architectural and building affairs. He served in the office of the late John Nash, by whom he was sent to Ireland to superintend some important works, and eventually, with his brother, Mr. George Richard Pain, settled in Cork and Limerick, in which counties, as well as in the south and west of Ireland generally, the firm of James and G. R. Pain enjoyed for many years an extensive practice. Among their works may be noted Mitchelstown Castle, erected for the Earl of Kingston; a noble pile in the late Tudor style; Dromoland Castle, for the Earl of Inchiquin; Lough Castle, for Lord Gort; Elm Park, for Lord Clarina; and many others. Adare Manor, the residence of the Earl of Dunraven, was begun by them, and afterwards passed into the hands of the second Pugin, and finally into those of Mr. P. C. Hardwick. They also designed the Cork court-house, possessing a splendid Corinthian portico, referred to by Lord Macaulay in his history, the Cork and Limerick prisons, Thomond and Athlunkard bridges over the Shannon,

and several large churches, both Protestant and Roman Catholic, in the cities of Cork and Limerick. Mr. G. R. Pain died at a comparatively early age, but Mr. James Pain continued to reside in Limerick, and to practise his profession till within the last few years. He enjoyed a deservedly high reputation for his upright and honourable course of conduct, both amongst his employers and professional brethren, and, it may be added, was highly respected by the working men of the local building trades as a just and impartial judge of the questions which so often arise between them and their employers. Mr. Pain was a distinguished "Mason." His remains were interred in the Cathedral of Limerick on the 17th ult. W. F.

#### IN MEMORIAM. THE LATE SIR WILLIAM R. WILDE, M.R.I.A.

THE following kindly allusion to the illustrious Irishman above-named was made by Dr. J. A. Byrne in the course of his Inaugural Address at the Catholic University School of Medicine:—

"And here I hope I may be permitted to pay a passing tribute of respect to the memory and the talents of one of the noblest spirits that has ever adorned our profession. He was not only a most able surgeon, but by his splendid talents, his efforts, his perseverance, his influence, his single-mindedness, and his energy, he created a School of Ophthalmic Surgery in this city, which was previously without one, and he has left us as a monument of his genius and energy the special hospital of St. Mark's, of which we may well be proud, and which has done incalculable benefit to suffering humanity; and from an educational point of view if he left no other legacy to his country, it should be grateful to him for this. Of him, gentlemen, we all, as Irishmen, should be proud. His name should never be mentioned but in a spirit of affection, and regret that he should have departed at a comparatively early age from the position which his talents were so well calculated to adorn. He not only founded a new and practical school of ophthalmic and aural surgery in this city, but he devoted himself to the literature connected with this special department. Until failing health compelled him to retire from practice, his name and fame were not only disseminated in every portion of that Ireland which he loved so well, but his writings and teaching acquired for him a Continental reputation. Nor should we forget that to him we are indebted for those charming memoirs of Molyneux, Swift, and other illustrious Irishmen which appeared in the journals of the day; and we can all remember how well he vindicated Dean Swift from the imputation of being an insane idiot. Truly we may say of him *nihil tetiget quod non ornaret*. He was a genuine Irishman, heart and soul; and he always acknowledged the fact with pride. He has passed away, but his memory will long live both in the annals of surgical science and Irish literature, and in the bea-roll of the benefactors of our city.

Clarum et venerabile nomen,  
Gentibus et multum nostræ quod profuit urbi.

The parish church of Kilmuckridge, diocese of Ferns, has been re-opened after extensive repairs and improvements both interiorly and exteriorly. Open benches of pitch pine have been substituted for the old square box pews. A handsome carved oak lectern has been presented by William Bolton, Esq., of The Island, in memory of his father and mother; and a Caen stone font, with Cork marble shaft, the gift of the rector, has been placed near the western door. The works have been carried out under the direction of Mr. R. Langrishe, diocesan architect. The interior fittings were supplied by Messrs. Jones and Son, Wexford; the lectern and mediaeval work by Messrs. W. Blews and Son, of Birmingham.

NOTES ON THE RISE AND PROGRESS  
OF PRINTING AND PUBLISHING IN  
IRELAND.

## THIRTEENTH PART.

THE journalistic literature of the Irish capital in the twenty years preceding the Union and the twenty years subsequent to it, exhibited many curious phases of party feeling and spirit. Satire and duelling kept pace with each other; and if men could not settle their political or other enmities in the parliamentary arena, or in the columns of a newspaper, they settled them in the field. Past party, political, and religious animosities are mere matters of history, which can be now touched upon without giving offence except to the most super-sensitive; therefore no apology is necessary in referring to them in illustration of part of our subject.

The Irish Executive, as well as the English Government, did not scruple to employ the aid of the Press by subsidising it, and corrupt men in scores were found only too ready to sell their talents, and write as they were inspired or bid. Conscience or principles were ignored, and corrupt journalists wrote according to their pay and not to their real beliefs. Before the Union in Ireland, and for several years afterwards, the few journals on the side of the people, as opposed to those supporting the Government, were carried on under great difficulties. They had to depend upon a very limited circulation, and the advertising interest was small, giving little promise of the dimensions it assumed in our time. The Government organs not only secured a subsidy, but also secured good paying advertisements; and their proprietors, so long as they secured these ends, had little need of being concerned as to the amount of contributions their respective journals obtained. The paper and advertisement duties had, of course, the effect of limiting the number of newspapers and other publications, and thereby increasing their price; and as the masses were neither educated nor well paid for their labour, newspapers were seldom to be found in humble family circles. Political literature and polemical controversy constituted nearly the general literature of the country, and scientific literature was only to be heard of in the transactions of a few exclusive institutions, or in big tomes or other works not within the means of the people in general. Those possessed of a smattering of elementary education, for the want of facilities for improvement and extending their knowledge, were placed on almost the same footing as the wholly illiterate, and the public amusements of the one became the pastimes of the other.

The national Parliament was only national in one sense while it existed. It might have been split into two or more parties, but all the members were the representatives or supporters of the State Church. The journalism of the country, like the parliamentary power, with an odd exception perhaps, was in the hands of the same class, though kindly and liberal Protestants pleaded the cause of their Catholic countrymen. To espouse and defend the cause of the people as against the ruling authority, was to become marked, to be stigmatised as an incendiary, a rebel, and worse, and to have all sorts of obstacles thrown in your way. The laws were intensely severe, and the popular publicist or writer who spoke his mind freely was certain to have not only one, but half-a-dozen partisans hounding him down or pointing him out as a victim for a common prosecution. The writers in subsidised organs often libelled their adversaries right and left, and were permitted to do so with impunity, and it was useless for the aggrieved to prosecute, for the juries would not convict.

The *Dublin Journal*, of which we have already given a notice in connection with its founder, Faulkener, affords an instance in its later days of how journalism was prostituted to subserve corrupt purposes. In 1790 the *Dublin Journal* became a violent Government partisan paper, under the editorship of the notorious John Giffard. Of this man Mr.

Gilbert writes in his "History of Dublin":—"Its editor, John Giffard, educated in the Blue Coat Hospital, commenced life as an apothecary, distinguished himself as a member of the Volunteer Association, and a strong opponent of the English Government. He subsequently changed his politics completely; was appointed Director of the City Watch, and, having acquired notoriety from defeuding his house against the assaults of a number of riotous collegians, he became a subordinate agent of the Government, and manager of their newspaper, the *Dublin Journal*, and from his conduct acquired the name of the 'Dog in Office.' In 1790 he publicly insulted Curran, who wrote in the following terms to Major Hobart, the Secretary, demanding the dismissal of Giffard from his post in the Revenue:—"A man of the name of Giffard, a conductor of your press, a writer for your Government, your notorious agent in the city, your note-taker in the House of Commons, in consequence of some observations that fell from me in that House, in your prodigality in rewarding such a man with the public money for such services, had the audacity to come within a few paces of me, in the most frequented part of the city, and shake his stick at me in a manner which, notwithstanding his silence, was not to be misunderstood." This affair resulted in a duel between Curran and Major Hobart. Giffard, however, continued to enjoy the patronage of the Government, through the influence of which he was appointed Sheriff in 1794, when it became their object to convict Hamilton Rowan. The violence, virulence, vulgarity, and mendacity of the *Dublin Journal* from the time it came into Giffard's hands, were, we are told, of so extreme a character, that in the present day its advocacy would be held detrimental and disgraceful to any party. A perpetual war raged between the *Dublin Journal* and the *Press*, the organ of the United Irishmen, in the columns of which the former always figured as the *Dog's Journal*, while the name of 'Il Grotto del Cane' was applied to the office in Parliament-street, where it was published."

Ryan, the printer of the *Dublin Journal*, fell in the attempt to arrest Lord Edward Fitzgerald, and Giffard's son met his death in an engagement with the peasantry in the Rebellion of 1798; "and these two matters," observes Mr. Gilbert, "were not calculated to mollify the editor of the journal, who persevered in his valiant career." Giffard's detestation of the Pope and his admiration of King William were manifested in an excessive and most ridiculous manner, some of his own party acknowledging that he seemed delirious on these questions. In the Dublin election of 1803, Giffard came forward publicly to object to Grattan's vote, and the conduct of the partizan scribe drew from the orator the following fierce invective:—"Mr. Sheriff, when I observe the quarter from whence the objection comes, I am not surprised at it being made. It proceeds from the hired traducer of his country, the excommunicated of his fellow-citizens, the regal rebel, the unpunished ruffian, the bigoted agitator! In the city a firebrand, in the court a liar, in the streets a bully, in the field a coward! And so obnoxious is he to the very party he wishes to espouse that he is only supportable by doing those dirty acts the less vile refuse to execute." No wonder that Giffard was thunderstruck, and lost his usual assurance under Grattan's sledgehammer blows, for we are told the only reply he was able to make was the following unmeaning exclamation, "I would spit upon him in a desert." The services of Giffard as editor of the *Dublin Journal* became of less importance to the Government after the unsuccessful attempt of Robert Emmet in the Insurrection of 1803. "One of Giffard's last acts in his editorial capacity," writes Mr. Gilbert, "was the suspension of a huge placard from an upper window of the house in Parliament-street, contradicting in unmeasured terms, a report circulated through the city, that Dr. Patrick Duignan, a notoriously violent champion of the Protestant

ascendancy, became a convert to the doctrines of the Catholic Church."

In his early years Giffard is said to have enjoyed the reputation of being "a gentleman well stocked with poetic literature to the happy application of which he owed much of his reputation as a public speaker." Apart from his violent and bigoted opinions, it is written of him that he never allowed the bitterness of party feelings to impede the dictates of benevolence, and that in private life he was always found to be a steadfast and generous friend. The worst of men, public and private, have some redeeming points, but, publicly viewed, Giffard's conduct and journalistic advocacy merits the strongest reprobation, and the character given of him by Curran and Grattan was fully deserved, and the language not a bit too strong. The journalism of party is one thing, but the literature of mendacity is another. Prejudices in connection with politics and political parties will more or less exist, but it is to be hoped that journalistic advocacy of the Giffard stamp will never again be found pressed into the service of a government or against a government. Talented and unscrupulous partisans there are still in the ranks of journalism, but newspapers in these days are generally conducted in a respectable way; and no matter how strong may be their articles, certain recognised limits are seldom exceeded where conductors desire to be considered as gentlemen. The most powerful journal cannot, if it willed, insult the public in these days with impunity, and though it may always justly claim and exercise its right to speak, it must nevertheless hold itself amenable to the public will.

Walter Thom succeeded Giffard as proprietor of the *Dublin Journal*, but Thom's connection with the paper ceased shortly before his death in 1824. In the following year the last issue of the *Dublin Journal* appeared, having existed for a century since it was first published in Skinner's-row in 1724 by George Faulkener, in connection with his partner, James Hoey.

In the pages of Cox's *Irish Magazine*, throughout several volumes, Giffard's name will be found bracketed in many ways, and the "Dog" in office pilloried. The celebrated "Watty" himself affords an illustration of the violence that characterised party warfare on the people's side, although there were certainly strong excuses to be urged in his favour at one time. Cox satirised and lampooned right and left betimes, but his attacks were particularly levelled against the ultra loyalists, public personages, and Government agents and officials, who made themselves conspicuous during the Rebellion, and again in accomplishing the Union. In an article in the *Irish Magazine* for August, 1810, under the heading of the "Duke of Richmond," Cox writes *inter alia*:—"Leaving the obnoxious police, its ignorant lawyers, its privileged barbers, tinkers, and bankrupt deputies, in the exercise of their high powers, we will quote another example of his Grace's respect for the people of this country. The well-known Giffard, whose vulgar and rancorous character has been rendered so obnoxious to the Catholic body, that our surprise at the avowed patronage he receives is only equal to our astonishment at the temerity of any administration, at this perilous period, that would presume to affect an attachment to Catholic rights, and at the same moment be so profuse in rewarding their calumniators. Giffard has got a sinecure of £1,400 a-year, and his son a judge's place in the Island of Ceylon."

Until the abolition of the stamp upon newspapers a criterion was afforded for estimating the circulation of newspapers respectively, whether in the interest of the Government or of the people. The number of stamps issued was not always an infallible guide, particularly in more recent years preceding their disuse, as cunning practitioners adopted tricks for misleading the public on particular occasions, when they wished to make it appear that the circulation of their newspapers was much larger than it really

was. In our own times we have known certain political adventurers in the newspaper line getting a very large stock of stamped sheets, a title of which number was only printed off for one issue, the rest being held over for future working off. The large issue of stamps was quoted as a proof that the number of sheets they represented were printed off, and the public were thereby led to believe that the paper or papers in question had a large circulation, and a consequent great influence. We have known several instances, also, where double and treble the number of stamped copies were printed than were circulated. Long before the stamp on newspapers was abolished, the stamp office allowed for the stamps upon those sheets that never passed into circulation through the post, for otherwise the money expended would be a dead loss to the honest newspaper proprietor.

Looking back at the era of the *Dublin Journal* and its Government contemporaries in the early years of the present century, one is surprised at their very limited circulation, and it is impossible to conceive that such public prints had much influence on the public mind, or were of much use to advertisers. A well-known writer in 1811 publicly made known through a popular magazine, that boasted of a circulation at each monthly publication, that the *Dublin Journal* published only 150 copies every day of its publication. Without the subsidy of the Treasury, of course, such a circulation would go but a very short way in paying for the printing, not to speak of the other incidental expenses of the newspaper. The *Hibernian Journal*, a daily paper in the service of the Irish Executive, was said to have not printed more than 150 each issue, and at an expense of not less than £2,000 a-year. These two journals were distributed in a forced way, and were seldom to be found anywhere save in the public offices. The newsmen were said to have refused vending the *Dublin Journal* at the period of which we are writing, and the other organ was but little patronised by the servants of the Government, though they condescended to read it when it was provided for them at the public expense.

The *Patriot*, a newspaper established "under the auspices of the Wellesleys," published about 450 copies daily. "Several eminent men," observes a writer in the *Irish Magazine*, "of all the learned professions have tried their strength upon the poor *Patriot*, and in vain, for it never appeared in any estimation, either for ingenuity or originality, but by the dull stupidity with which loyalty, without principle, always accoutres itself." Of course the *Irish Magazine* is not a truly impartial authority; but newspapers of past times cannot be judged entirely by their own statements, and one must be quoted against the other, by way of illustration or confirmation of other historical statements apart.

In allusion to the above-mentioned newspaper, the magazine writer already quoted observes:—"These are the kind of publications to which Mr. Foster paid £40,000 last year (1810) for distributing proclamations. Mr. Foster, with as much sense, might as well paste his proclamations in his wig box as conceal them in newspapers that are unknown, except in the list of public burdens, and, yet Mr. Foster had the effrontery to charge the country £40,000 for such services, and refuse Maynooth College £10,000 towards the education of the Irish priesthood." It must have been most galling for the Government organs of the day to be twitted by Cox and his coadjutors on their lax principles, their subsidies, and the amount of their circulation.

The *Irish Magazine* used satire and ridicule in prose and verse, sometimes keen and at other times rather rough; but its adversaries too often, instead of replying with the same weapons, kept hounding the authorities upon their opponent, and pointing him out for constant prosecution and persecution. Here are some of the remarks of the *Patriot* in answer to *Irish Magazine* exposure of

the surroundings of the Government papers, the *Patriot* inclusive:—"He (Cox) states that he circulates monthly four thousand of his infamous magazine, and has been obliged to reprint most of his numbers. It is truly a subject not only of wonder and surprise, but of the most melancholy and alarming consideration, that there should be so large a class of people in this country who encourage so glaring and dangerous a publication."

In following the career of the *Dublin Journal*, we have been led to touch incidentally upon other newspapers of a kindred kind established in later times. We have also introduced the name of the once celebrated "Watty" or Walter Cox, and his remarkable *Irish Magazine* in connection with other matters in illustration of our subject, but rather in advance of our purposed course. Cox himself and his literary enterprise, together with the principal political and literary characters he had a tilt with, and whose actions formed a good deal of the material he used up in his magazine—would make a little volume in itself.

We may or may not hereafter treat more fully, if not exhaustively, of some phases in the life of Walter Cox, and the class of literature of which his *Irish Magazine* was a characteristic and thorough exponent.

## GREEK AND ROMAN ART—

THEIR CONNEXION WITH THE TEACHING OF THE CLASSICS.\*

### LECTURE III.

(Continued from page 371, vol. xix.)

So much for the history of the distribution of marbles. Until about the year 1800 Rome was the great centre for all these things. The Roman Hercules, the Torso, the Apollo Belvedere, works like these gave the standard of excellence, and were supposed to be unapproachable works of art. Other works belonging to the same class—that is to say, to the class of Roman imitations of Greek art—formed the staple of all other collections. But about the beginning of this century the collecting of ancient marbles entered upon quite a new phase. This was owing to the exertions of a man who, at the time and since, has been covered with a great deal of obloquy, viz., Lord Elgin, but who, in the history of human civilization, deserves a place I am afraid to say how high. The debt which mankind owes to Lord Elgin for his so-called spoliation—which Byron, and many would-be Byrons have, as you know, denounced—in rescuing the pediments and friezes of the Parthenon from inevitable destruction, is a debt which it is not possible for us to estimate. I do not know whether it is familiar to all of you how hard Lord Elgin worked, or how ill, for a long time, was the reward he met with. The origin of his removing the marbles from the Parthenon was this. He was sent out when quite a young man to Constantinople as ambassador, and a certain architect named Harrison thought it would be a very nice thing, Lord Elgin being interested in these matters, to have some casts of certain architectural features—especially from the corner capitals, the construction of which has always been a matter of great interest to architects—from some of the Ionic buildings at Athens. Then came the further notion to take more casts and make more drawings; and, in the course of these proceedings, it became apparent that the pediments and friezes, and other sculpture that remained, were constantly suffering irremediable injury, partly from the barbarism of the Greeks and Turks, and partly from strangers who liked to chip pieces off; and it was evident that if they were to be saved they ought to be removed. Lord Elgin got a firman from the Sultan, therefore, and appointed agents who carried on the work with immense zeal. Certain Englishmen who were there said the removals were done much too rapidly, and without due regard to the safety of the things. Of that we have no positive evidence, but the result was that in the course of a few years 180 cases were packed and filled with all these precious monuments. I cannot follow the history of the bringing of these things to London; it is a strange, romantic history. Some of them went to the bottom, and had to be recovered by divers, years afterwards; they were sent off in that way, whilst Lord Elgin started on his way home. This was in the year 1802, if I remember rightly, when there was war between England and France,

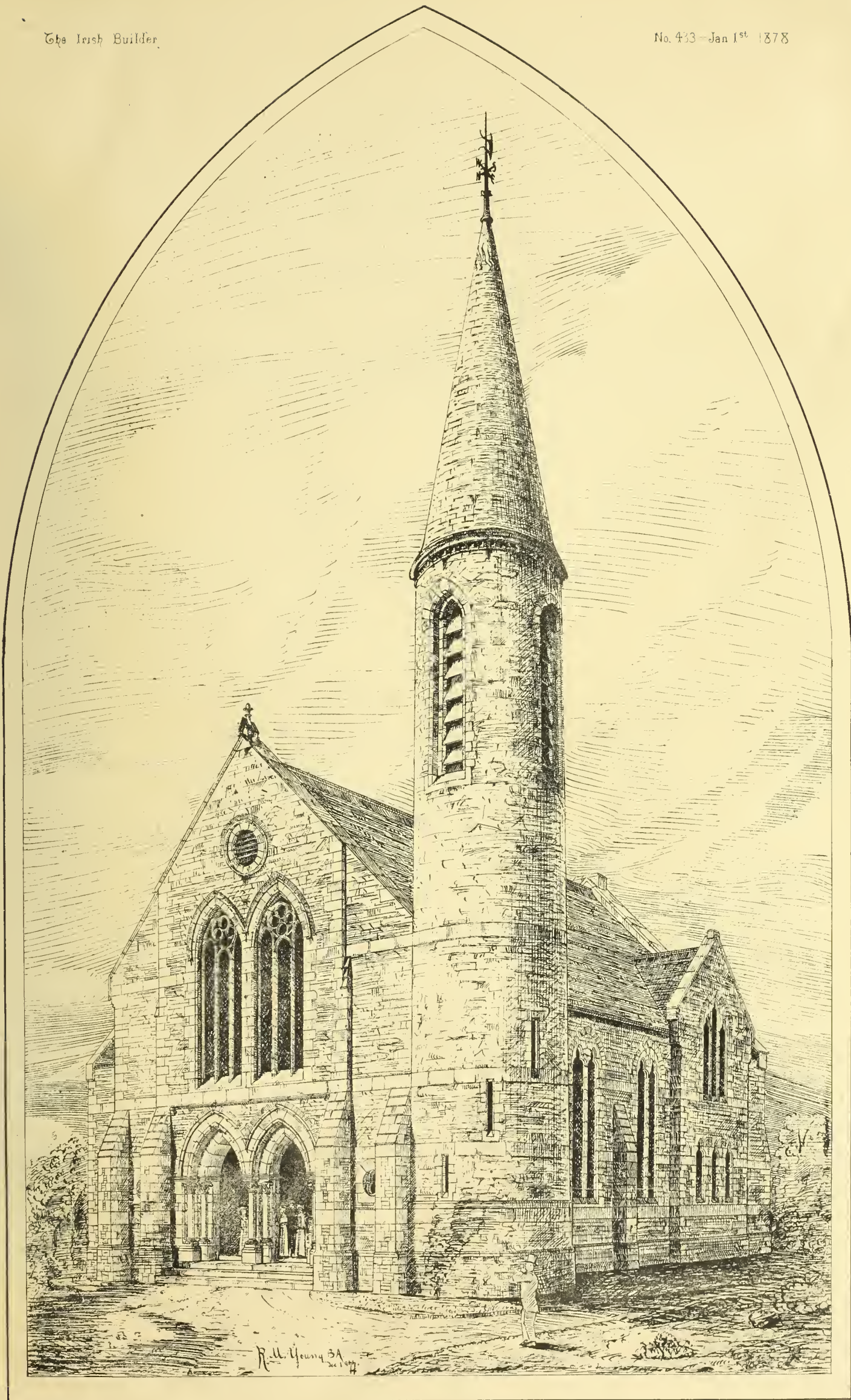
and he got stopped and imprisoned. First of all, he was only interned in Paris, but he was afterwards shut up in Melun; and all that time the cases were lying about in various docks and harbours in England, waiting for their consignees to claim them. When Lord Elgin was liberated, he had great difficulty, first of all, in getting all the things together, and then he had an incredible difficulty in persuading the English public, and the *dilettanti* of those days, that the things were worth having. This point rather belongs to our next lecture, which will be on the history of antiquarian criticism, and of the changes of interpretation which these monuments have gone through; and I shall then take the opportunity to say something on the obstinacy with which certain amateurs of the time refused to acknowledge that these, incomparably the greatest and most beautiful specimens of carved marble in the world, were anything but insignificant works. The taste of the people had got so set—they had got so much accustomed to look upon the statues in the Vatican as perfection, such as the Apollo Belvedere and the Laocoon—that it was impossible for a long time to persuade them that they had now something very much more beautiful and higher than anything they had had before. However, one after the other, first of all Canova, and then Visconti, and then Haydon, one after another asserted the supremacy of the new arrivals; and, after long negotiations and bitter disappointment, Lord Elgin got the marbles purchased by Parliament at the price of £36,000, which was perhaps, half of what they had actually cost him in the various labours of removal. Ever since that purchase, for one thing (as I shall show more particularly next week), the whole of our knowledge, our taste, and our judgment about these things has been extended, improved, and undergone a perfect revolution. But, for another thing which belongs to our to-day's inquiry, the British Museum, in Bloomsbury, has been made the great centre and home of this study. Since the Elgin marbles were brought to London and deposited here, that museum has been the great centre of attraction to all archæologists, and has furnished the great central standard of the consummate excellence of Attic work in the full blaze of Attic civilisation.

Naturally, after a little while, when all the mistakes and foolish talk of people were silenced, and the pre-eminence of these things established, Lord Elgin's example was followed, and further research in Greece itself for genuine works of Greek art began to be carried on with renewed energy. The next important discovery made was that of a group of pediment sculptures almost intact, in a forgotten temple lying out of sight in the island of Ægina, off Attica. These Ægina sculptures are amongst the most interesting and important things we have. They belong to an early time, about that of the battle of Marathon, 50 or 60 years before the Peliclean time. By this time the English Government were awake to the importance of the subject, and the British Museum sent out an agent to obtain these things, but somehow or other he went wrong, travelling to Malta instead of to Zante; and as Munich was then very anxious to obtain a good collection, when the English agent found his way to Ægina, he found the Munich Government had made a bargain for them and bought them, and they are there now in the Munich Gallery.

That brings us to another museum, that of Munich, which is now, after our own, one of the richest museums in genuine Greek things. Since the purchase of the Ægina sculptures, many other beautiful things have found their way there, and amongst them the famous frieze of the River Gods, which probably came from the temple in Rome, which was ornamented partly by the works of Scopas himself. There is also at Munich another very beautiful work, a copy of the famous statue by Cephisodotos, the figures of Peace and Plenty, Peace being represented as an opulent mother, and Plenty as a child with a cornucopiæ in her hand.

Things went on in the same way. It was felt that Greece was the place to search, and that even subordinate sculpture—not only the capital masterpieces, which had been found really in Greece itself, would bring us nearer to the centre of ancient art than any galleries full of the showy, restored works such as abound in the Vatican, and had until then abounded in all English collections. About 1814 was removed from another almost forgotten Greek temple, that of Apollo, at Phigalia, a wonderful frieze representing the battle of the Centaurs and Lapithæ. This was brought to England and deposited in the British Museum. Since then many discoveries have been made. The Dilettanti Society made explorations in Asia Minor, and above all, at Xanthus, in Lydia, at the famous Halicarnassus; and the result of all these things was to produce a rich, priceless store of sculptures, mostly of a subordinate character, but still genuine, first-hand Greek work. They are in the British Museum, and

\* Cantor Lecture. By Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge.



New Presbyterian Church, Ballymacarrett, Belfast.

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help to make it the richest of all places for the study of these things.

In the meantime, in like manner, every other capital of Europe established its museum. The Louvre is rich, but not so rich as we are, in Greek antiquities. The original Louvre collection was to a great extent founded on the dispersion, or part dispersion, of one of the richest and most beautiful private collections, the Albani collection. At Berlin they have a good many marbles, but that which especially distinguishes the Berlin museum is the immense collection of casts, bringing together the works which are scattered all over Europe in this reproduced form for the purpose of study. Of that I shall have something to say in my last lecture.

Every day things are found quite unexpectedly. In digging at Soissons, an old Roman station in France, lately, they found, quite unexpectedly, a group representing a boy and his *pedagogue*, which evidently belonged to some copy of the original group of Niobe, of which the famous version now in Florence had been found as long ago as 1583, at Rome. Another accidental discovery of this kind was made in the Island of Milos, that figure of Venus which is now in the Louvre, and is so famous. Sometimes by chance, and sometimes by calculation, these discoveries are made, but by far the most important of all the recent additions to our stores of these things are due to careful intelligent study, as is especially shown in the discoveries which have lately been made, and are still in course of making, at Olympia.

To recapitulate, then, for this particular study—the study of fragmentary works of original Greek marble—the British Museum is incomparably the richest place. I have tried, in this very hasty way, to bring before you the principal sources of the British Museum; that is to say, some of the collections of old Roman things found by English travellers in the last century, then the great Elgin collection, and then the friezes from Phigalia; and, subsequently, the results of a great many researches on the coast of Asia Minor by the Dilettanti Society and by our own Government, together with a good many purchases. Munich is rich in the *Ægina* marbles in the first place, and by many subsequent purchases. The Paris, Berlin, and Dresden galleries are, perhaps, of secondary interest to these, but still contain things which are very precious when one thinks of their numerical profusion.

We are rightly accustomed to think of sculpture as the great central art of Greece; but there are minor forms of art which are of infinite value in the reconstruction of the general history of art as well as for their own sake. Coins and gems are two separate classes, each of which has a science of its own—classes in which our existing remains are very vast. They have been collected for a great many years, and every museum of antiquities at all has a more or less rich collection both of coins and gems. One may call coinage a subordinate branch of sculpture, because the type is carved in the die and has to be struck upon the coin; so that in all essentials a coin is a work in relief, only in relief which is stamped from a die instead of being carved.

Innumerable points of history are illuminated by the study of coins. The early Greek coins are not merely valuable for the light they throw on the city which produced them, the particular god or gods worshipped in a particular city; but during all the great ages of Greece, from the archaic art to the latest, in these coins, the whole of the spirit and genius of Greek art is reflected. You may take the coinage of Sicily, or you may take Asia Minor, and find out the way in which the type of each patron god of the town, or hero of the town, or particular event, legendary or historical, connected with it gets represented from the earliest to the latest time. Another thing which makes the study of coins of great value to our own subject, is this—it is a very common thing to find on coins a small figure representing the principal work of art of the city to which it belonged. Thus many coins of Ephesus have upon them small conventional representations of the great Temple of Diana of Ephesus. The coins of Cnidus—some of them—have a representation of the Praxitelian Aphrodite, one of the most famous statues of all antiquity. So, in a great many cases, by a close and careful study of what is found on coins, we are enabled to name and identify an existing work of art. We find sometimes, in the corner of the coin, a small representation of a group which we recognise as corresponding to one which we have read of in books, or which we know to have existed at such a town. So that not only on account of its intrinsic interest, but on account of the light it throws on other subjects, the study of coins becomes fruitful. And it is one also, although this rather belongs to my concluding lecture, which can be carried on almost as well by

means of reproductions and later types which are almost identical in all details with the originals, as by the study of the originals themselves.

Then we come to gems, and there again is an infinitely wide range of study. We have engraved gems of all kinds, either sunk in the field or raised, called respectively *intaglio* and *cameo*, and they are from almost all periods of the world's history. We have Egyptian and Babylonian passing into Greek, and through all the various stages of Greek art we may follow its development in gems. And, just as in the case of coins, so here we constantly find the study of gems gives us a new clue to the meaning of mythology, and gives us fresh subjects to study and to explore. In like manner we find motives which appear on other monuments, and thus enable us to identify them. Of the infinite beauty of the glyptic art, with its almost superhuman subtlety, of the skill with which Greek artists were able to express so much in that stubborn material on that tiny field, there is not time to speak. Besides, accounts of these things cannot convey much idea in the absence of the things themselves. Our own collection lately has been enriched by many great purchases, especially the Castellani purchase. I do not suppose there is any place more fascinating than the gem room in the British Museum, where the light is so arranged as to bring out all the lovely colour of the stone and the exquisite character of the art.

Coins and gems are the two principal products of the arts subordinate to sculptures—the arts of cutting or stamping raised on sunken figures on a small scale; but there have been lately enormous discoveries of another subordinate branch of sculpture, *terra-cottas*. Great numbers of *terra-cotta* statuettes have been found lately in several parts of Greece, as at Corinth, Megara, and especially in the necropolis of Tanagra, giving us altogether an immense mass of new materials, not bearing so much on the mythology and religion of the Greeks as upon their ordinary daily habits and ways.

Keeping still before us the same broad division into sculpture and its subordinate arts, and painting and its subordinate arts—Greek painting is a thing far more completely perished than Greek sculpture. At the end of the last century, a most curious discovery was made by an Italian nobleman, in the neighbourhood of Cortona. He found that a blacksmith in his neighbourhood had stopped up a window, which let too much draught in near to his forge fire, with an old tile which had on it a face with head and shoulders; and this figure, when it came to be examined, proved to be a most beautiful work of art, done in a manner entirely unknown. The immediate neighbourhood of the furnace flames had not effected it in the slightest degree. It was a specimen of *encaustic* art, and is now in the museum of Cortona. It is, perhaps, the only remaining example of ancient painting done in that manner. But there does exist an immense store of a certain kind of ancient painting. I have spoken of *Herculaneum* and *Pompeii*, and you are all familiar with the enormous multitude of paintings discovered in those buried towns of the Campagna. Probably most of them were executed not long before the catastrophe, because 15 years prior to their total destruction those towns had received a fearful shock, and had nearly fallen into ruin, so that of this series of paintings of mythological subjects and fancy subjects the great part, no doubt, belongs to the 15 years immediately before their destruction in the 79th year of our era. At any rate, all the paintings we have there are of the Roman age, done when the original inspiration of painting had departed. These paintings consist partly in scenes of real life—often the commonest real life—but in a much greater proportion of subjects of Greek mythology. From them, making due deductions and qualifications we can to a great extent arrive at some knowledge as to Greek painting at its best, the nature of the composition, and the way they treated their subjects. Then, there is another department of paintings, which, for the study of Greek art in general is infinitely more important still than these fresco paintings in the buried cities of the Campagna—that is, vases. Vases were not a kind of antiquity found very early or much esteemed. The attention of archaeologists did not really begin to be drawn much to them until the end of the last century, and the great discoveries of them—the multitudinous discoveries—have been made almost in our own time. The habit of the ancient Greeks, men or women, was to have buried with them whatever they loved best, their little household knickknacks and treasures; and since systematic excavations have been made, these painted vessels, which are commonly called *Etruscan vases*—although they are not *Etruscan*—are found in numerous tombs and cemeteries at almost every site which has been dug over, not only in ancient Greece but in Sicily, Italy, in Etruria, Campania, and generally in both the western and

eastern parts of South Italy. For a long time these were called *Etruscan vases*, because an incredible store of them was found in Etruria in the year 1828. But the more one closely studies them, the more one sees in the main a uniform spirit breathing through them, and that their character is Greek—that they belong to the Greek world. We can trace the historical changes from the primitive archaic manner to the more and more perfect manner, and then to the over-luxurious, decadent manner; and these historical changes are strictly in accordance with what we know of the main history of Greek art. There is every reason, therefore, to be certain that, with very few exceptions, these multitudinous stores of vases, of which there are thousands in the museum at Naples, and thousands in the British Museum, and hundreds at every other important museum in Europe, were of special Greek manufacture, exported to non-Greek nations—exported to the Etruscans, Campanians, and to others, just as we export our special goods to foreign countries. The Phœnicians, we know, imported a great deal of bronze from Etruria; and in like manner the Etrurians imported a great quantity of these vases figured with mythological scenes—what we are accustomed to call *Etruscan vases*—from Greece. There is no exaggerating the amount of light which the paintings of these vases throw on the whole circle which we are considering—on the circle of Greek religion and life—since both kinds of subjects are included.

Such, then, very roughly speaking, are the principal classes of objects in Greek art which we have to study, and such is their distribution. You see how infinitesimal the materials are compared to what one would like to have, and compared with the recorded multitude of beautiful works which came from Greece in the three or four centuries of her greatness. Still, the mere hasty enumeration is enough to give one some sense of the immensity of the subject, and to prove that the study, at all events, is not one likely to fall short for want of material.

(To be continued.)

## NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

CROW-STREET opened in October, 1763, and Othello was played a few nights after by the command of the new Viceroy, the Earl of Northumberland, who attended, with the countess. Barry had the advantage of the viceregal patronage, which continued to be extended to Crow-street. During the winter season of which we are writing the Lord Lieutenant attended several times, and these attendances were considered as denoting the popularity of the chief governor. The managers of Dublin theatres were always anxious to secure the attendance of the Viceroy and Castle party for the time being, for, independent of the allowances made, the nobility and gentry generally crowded to the theatre on command nights, and thereby swelled the exchequer.

Barry made an engagement with Sheridan, who had been absent for a considerable time from his native country, and calculated that Sheridan's reappearance would lead to beneficial results. Since his former appearance in Dublin, Sheridan had been for some time a preceptor to the Queen, and had obtained a pension, which made him feel more easy in mind. He had, as the reader is aware, suffered sorely some years before from violent party spirit and opposition, and he returned with the hope that he might merit some recompence for the wrongs he previously suffered. Barry succeeded, too, in weakening the staff of his rival at Smock-alley by winning over to his side the services of Mrs. Fitzhenry, who had spent three years at Mossop's theatre. In tragedies Barry could now boast of the talents of Sheridan, Reddish, Heaphy, Jefferson, Mrs. Fitzhenry, Miss Osborne (i.e., Mrs. William Barry), and Mrs. Dancer. In comedy at this time Crow-street was not strong. Mrs. Kennedy, from Drury-lane, was equal to a few characters, but was unfitted for elegant comedy, neither her age nor figure qualifying her for such. Tato Wilkinson, however, served as a compensating balance, and he drew good houses early in the season by acting Foote's pieces, particularly his "Mayor of Garret," then for the

\* See ante.

first time acted in Dublin for several nights. After the termination of Wilkinson's engagement in 1764, ending with a good benefit, the actor proceeded to Scotland. During the remainder of the season tragedy had the uppermost place, very few comedies being performed at Crow-street. Macklin in the meantime joined Mossop at Smock-alley.

We find Mrs. Fitzhenry opening early in November in Calista, and, a few nights after, Sheridan coming forward in Hamlet, Mrs. Fitzhenry playing the queen. On the appearance of Sheridan, he was received with plaudits by a crowded and enthusiastic house. His next appearance was in Richard, on which occasion the Lord Lieutenant and his countess attended. Barry and Sheridan next combined their strength, and played Pierre and Jafier, Brutus and Cassius, King John and the Bastard, Hastings and Shore, Othello and Iago (Desdemona, Mrs. Dancer; Emelia, Mrs. Fitzhenry), and Castilio and Chamont. In several tragedies the four appeared.

Business declining towards the end of the season, Barry engaged a company of Italian burletta performers, who opened by command on the 28th of April. This company commenced with the burletta of "La Serva Padrona, or the Maid and the Mistress," the characters by Signor and Signora Guccina, &c. These burlettas do not appear on this occasion to have had more than a very moderate success, and scarcely covering the expense of producing them.

Returning to Smock-alley we find Mossop meeting his rival at Crow-street, not by the production of expensive tragedies, but by judiciously producing comedies and musical pieces, and in this direction at the time lay Mossop's chief strength. Smock-alley possessed Mrs. Abington, Mr. Ryder, together with Macklin, who was in himself a tower of strength. Mossop shortly made another good hit by bringing over from London Miss Cotley, whose vocal powers and other abilities were attracting a good deal of attention in the sister capital. Miss Cotley arrived in Dublin late in December, and her first appearance was in the "Beggars' Opera," in which she gained uncommon applause. "She pleased beyond expression," writes Hitchcock, "and so highly established her fame, that even in the ensuing Christmas holidays, the most unfashionable part of the season, the houses were crowded each night with the first auditors in the kingdom to her Polly." Operas now began to take the lead, and Cotley became the pet of the public. The "Beggars' Opera," we find, was often repeated, and her Rosetta in "Love in a Village" drew crowded houses, and a good deal of money. Though Mossop's genius inclined more to tragedy, yet he acted wisely under the peculiar circumstances of his position, and succeeded in selecting a very good comedy company. Many comedies were performed at Smock-alley with credit, in which the following performers appeared:—Mr. Macklin, Dexter, Hamilton, Walker, and Mrs. Abington, and Mrs. Lessingham, Miss Kelf, Miss Ambrose, Miss Usher, and others.

Of Miss Cotley, or Anne Catley, several historians of the stage and dramatic critics have written, and, as she was a favourite in Dublin, it may not be amiss to devote to her more than a passing notice. John O'Keefe, in his racy and gossiping "Recollections," thus writes of the actress:—"The first time after my venturing into a theatre after my defeat, Miss Catley, the celebrated singer, accosted me from a front row in the lower boxes, loud enough, as I was many rows back, to be heard by everybody. 'So, O'Keefe, you had a piece damned the other night. I'm glad of it. The devil mend you for writing an opera without bringing me into it.' A few moments after Miss Catley had accosted me, Leoni entered the box with a lady leaning on his arm. Miss Catley, catching his eye, called out, 'How do you do, Leoni? I hear you're married—is that your wife? Bid her stand up till I see her.' Leoni abashed, whispered the lady, who, with good-humoured compliance, stood up. Catley, after surveying her a little, said, 'Ha! very well indeed,

I like your choice.' The audience around us seemed more diverted with this scene in the boxes than on the stage, as Miss Catley and her oddities were well known to all. She was one of the most beautiful women I ever saw; the expression of her eyes and the smiles and dimples that played around her lips and cheeks were enchanting. She was eccentric, but had an excellent heart. She wore her hair plain over her forehead, in an even line almost to her eyebrows. This set the fashion in Dublin, and the word was with all the ladies to have their hair *Catleyed*."

Some of the fast young ladies of the period now in Dublin as well as London imitate Miss Catley in a certain sense, but instead of training their hair or adjusting it to range in a line with their eyebrows, they deck a portion of it to form a fringe upon their foreheads. These modern maidens and matrons think they look beautiful. Who knows but that in the coming era of strong-minded women, ladies' tresses will not be trained to meander down the cheeks in fringes *à la whiskers*. Perhaps we are ungallant, but the sensible of the fair sex will not resent our remarks, whether on the stage or off it.

Boaden, in his Life of Mrs. Jordan, observes of Catley, "There was in her personal character a good deal of the careless boldness of Woffington; and like her, too, she was extremely handsome, and her eye and mouth had a peculiar expression of archness. She aimed at the almost manly frankness of speech, and acted as one superior to censure, when she raised the wonder of prudery. Catley had an understanding too sound to vindicate the indiscretions of her youth, but her follies did not long survive that period, and she amply atoned in her maturity for the scandal she had formerly excited in society. There was a graceful propriety in her domestic concerns. She was never profuse, and therefore could be liberal in all her arrangements." Of her vocal abilities the same author writes in his Life of Mrs. Siddons:—"To those who have never heard Miss Catley, I must, as my manner is, try to give some notion of what was peculiar to her. It was the singing of unequalled animal spirits; it was Mrs. Jordan's comedy carried into music—the something more that a duller soul cannot conceive, and a feeble nerve dare not venture. Even at the close of her theatrical life, when consumptive, and but the ghost of her former self, gasping even for breath, and wasting her little vitality in exertion, she would make sometimes a successful attempt at one of her former brilliant *rushes* of musical expression, and mingle a pleasing astonishment along with the pain you were compelled to suffer. No other female singer ever gave the slightest notion of her. She was bold, volatile, audacious. Saville Carey I have heard sometimes touch her manner feebly in the famous triumph of her hilarity, 'Push about the Jorum.'"

Miss Catley was born of poor parents, her father being a gentleman's coachman, and afterwards the keeper of a public house near Norwood. Her first appearance was at Vauxhall, London, in 1762, and in the same year she appeared at Covent Garden. It is reported of her that she married a General Lascelles, at whose house near Brentford she died in 1789.

A serious disturbance occurred on a crowded night in April, 1764, in Crow-street. Two gentlemen, leading some ladies to their sedan chairs, were grossly insulted by some servants. Abuse was followed by outrage, the servants throwing their lighted flambeaux into the box-room, crying out at the same time, "Fire! fire!" Panic and consternation was spread through the theatre as the shout of "Fire" was repeated and resounded through the house. The cries and shrieks of women, and the shouts of the men in endeavouring to extricate themselves and force their way out produced a terrible scene. The house was soon cleared, but not till a number of serious accidents took place, happily ending, however, in the loss of only two lives, a citizen butcher of the name of Eaton and his wife, of Ormond-market, being the victims, both

being trampled to death by the pressure of the crowd rushing from the upper gallery. Great public sympathy was expressed immediately after, as eight children were left totally unprovided for by the death of their parents. At both theatres a benefit was arranged for the children, all the performers of consequence volunteering their services. The benefit nights at Crow-street and Smock-alley were crowded, and the sum realised, together with a public subscription, produced a handsome sum for the future wants of the orphans.

Near the close of Sheridan's engagement with Barry, the former proposed giving lectures on elocution and the English language, but difficulties cropped up through some of his old creditors preventing him. This brought forth an explanation from Sheridan to the effect that though he had appropriated three-fourths of his income to the discharge of his debts, yet that by the cruel conduct of his creditors the safety of his person would be endangered if he ventured to proceed with his lecture. In June, 1764, Shuter came again to Dublin, and appeared in a round of his favourite characters at Smock-alley, the house keeping open till early in August, during which time the following pieces were several times repeated: "Love in a Village," "Thomas and Sally Comus," "The Devil to Pay," and others. Barry, although he had made great exertions at Crow-street, was obliged to close an unsuccessful season at Crow-street, leaving Mossop in the field. At Cork and Limerick, to which he shortly repaired as usual, Barry met with better fortune, and, having a good company, was well received. Here is a play-bill of a benefit night for a public charity in Cork:—

"By permission of the Right Worshipful John Smith, Esq., Mayor of Cork,  
For the Benefit of the Charitable Infirmary, St. Mary Shandon,  
AT THE THEATRE ROYAL,  
FRIDAY NEXT, the 14th of SEPTEMBER, 1764,  
Will be presented a Tragedy called  
THE DISTRESSED MOTHER.  
ORESTES .. Mr. Barry.  
PYRRHUS .. Mr. Heaphy.  
PYLODUS .. Mr. Mahon.  
PHENIX .. Mr. Vernal.  
HERMIONE .. Mrs. Fitzhenry.  
CLEONE .. Mrs. Glover.  
ANDROMACHE (with the original Epilogue) Mrs. Dancer.  
End of the 3rd Act, the Duet Cantata by Mr. Messink.  
End of the 4th Act, a Hornpipe by a young Gentleman.  
To which will be added a Farce (not acted these two years),  
called

FLORA: OR HOB IN THE WELL.  
FRUENDLY .. Mr. Mahon.  
YOUNG HOB .. Mr. Glover.  
SIR THO TESTY .. Mr. Mynitt.  
OLD HOB .. Mr. Vernal.  
DICK .. Mr. Hamilton.  
BETTY .. Mrs. Ellard.  
FLORA .. Mrs. Glover.

Box, 4s. 4d.; Pit, 3s. 3d.; Gallery, 2s. 2d. To begin precisely at 7 o'clock. Places in the Boxes to be taken of Mr. Keane, Box Keeper; and Tickets to be had of Mr. Bourne, House Keeper, the Charitable Infirmary, St. Mary Shandon; and the Printers hereof."

The reproduction of the old play-bill revives a memory or two, and supplies an incident in local history.

Returning to Dublin, we find Mossop next, at the desire of the civic authorities, preparing a grand theatrical entertainment in connection with the triennial perambulation of the city, or the "Riding of the Franchises."

BRIDGING THE FORTH.—The long-talked-of scheme of bridging the Forth, and thus avoiding the unpleasant sea journey from Granton to Burntisland, going northwards, and *vice versa* on the return, has at length taken tangible shape. A bill has been presented in the proper office to be introduced in the next session of Parliament, for the purpose of conferring powers on the Forth Bridge Railway Company, the North British, the Midland, and the Great Northern Railway Companies, with reference to the Forth Bridge Railways. The scheme embraces a railway commencing in the parish of Dalmeny by a junction with the Queensferry branch of the North British Railway, crossing the Firth of Forth by a bridge, and terminating in the parish of Inverkeithing; a railway commencing in the latter parish, and terminating in that of Burntisland by a junction with the Edinburgh, Perth, and Dundee Railway of the North British Company; a railway starting in Inverkeithing and terminating in the parish of Dunfermline by a junction with the North British Railway; and a railway beginning by a junction with the preceding in the parish of Inverkeithing, and terminating by a junction with another in the same parish

## ALLEGED DEFECTIVE DRAINAGE PLANS.

THE Mountmellick Board of Guardians are threatened with an action by Mr. Denis Feighery, to enforce payment of £50 for work done in preparing plans, &c., for the drainage of the towns of Maryborough, Mountmellick, Mountrath, and Portarlinton. The chairman, at the last meeting, said the Board had three different defences to any action—first, that the maps were defective; secondly, that they were not completed within reasonable time; and thirdly, that he [the engineer] was noticed not to go on with the maps for Portarlinton. The Board may find itself in the wrong after the action has been tried; and if it does, the acquired wisdom in the event will well compensate for its pecuniary loss.

## NEW MSS. IN THE BRITISH MUSEUM.\*

SINCE our last notice of late acquisitions in the Department of MSS. in the British Museum other additions of value have been made, of which the following is a brief summary:—Church service-books are represented by a small Breviary of English use; a book of Horae for the use of the monastery of St. Bridget of Syon, and a parish priest's Manual, also of English use—all of the fifteenth century. The Manual is always a service-book of interest, containing as it does those occasional offices for baptism, marriage, visitation of sick, and burial, in some of which fragments of English appear; and this example is a fine one. The *Leabhar ri Maolconaire* is a collection of legends, poems, &c., in Irish, written in the sixteenth century. Irish MSS. are not too numerous in this country, and we are therefore glad to see this volume placed in the national collection. Written in English are a small volume of Gospel lessons, illustrated by tales in verse, of the fifteenth century, and a long roll of Bible history of the same period, a translation of the Latin compilation of which many copies are to be found; the English version is rare. Another roll which has been added to the collection also deals with Biblical and mediæval history in the form of pictorial designs by an Italian artist of the fifteenth century. But perhaps what will attract more attention is the Diary of Cardinal York, contained in upwards of twenty volumes, and covering the years 1758-1805, together with several volumes of correspondence, and papers relating to the Sobieski family. It should be remembered that the Cardinal's inheritance of the Stuart papers long ago found its way into the Royal Library at Windsor, and that therefore we must not look for material for English history among this collection, which is presented to the Museum by the Hon. Mrs. Otway-Cave. That the literary remains of the late George Smith should rest under the roof where he made a name as an Assyrian scholar is appropriate. The trustees have purchased his working note-books, which are believed to contain much valuable matter. Another noteworthy purchase is that of the papers connected with the Shakspeare forgeries by Ireland, which, in the form of correspondence of the elder Ireland and cuttings from contemporary papers, give a full history of the affair. A good deal of early English music has also been collected, and includes, in addition to several volumes of compositions of the sixteenth and seventeenth centuries, an interesting MS. of airs, chants, and other pieces composed by Tallis, and collected by Thomas Mulliner in the sixteenth century, and also several volumes of oratorios and other works by Dr. William Crotch. The collection of manuscript music in the department is beginning to be respectable. That so little attention should have been paid to this class of MSS. by librarians of former times is, we think, as much the fault of the public who cared not for such things, as of officials who perchance despised them. Of

miscellaneous volumes the following may be noticed: an Inventory of the King's "Wardrobe Stuff," hangings, carpets, bed furniture, &c., at Windsor and Westminster, 34 Hen. VIII.-1 Edw. VI.; Lectures of Dr. John Rainolds, Dean of Christ Church, in answer to Bellarmine, 1590; the "Musae Boreales, or Iter Boreale," of Robert Edes, Dean of Windsor, of the 17th century; a household account-book of the family of Archer of Essex, 1600-1624; a narrative, in French, of Charles the Second's coming to Rouen, in 1651, by J. Samborne; scientific voyages by Edmund Halley in 1698 and 1701; a small volume of notes of monuments and inscriptions in London churches, by Peter Le Neve; a rate-book of Dartford, 1727-1785; a collection of Whig or Anti-Jacobite ballads and songs, 1688-1747; a volume of ancient Scottish poems, 1725; letters of Thomas Warton to Edmond Malone, 1781-1790; collections relating to Burcote, Worfield and Bridgnorth, Co. Salop; and journals of missions to Siam by Dr. Richardson, 1829-1835.

## STREET CLEANSING.

THE most effectual mode of street cleansing (says Mr. Edwin Chadwick) is by water power—by the jet from the hose and hydrant. We had complete trial works of this mode of cleansing, and found that whilst it was more rapid and effectual than cleansing by the broom, it was not half so expensive. It partakes in principle of the removal by the water closet, and of the direct conveyance of the manurial matter to the land in the quickest manner, and placing it in immediate chemical combination with the soil, with the least loss. We also recommend the system for the collateral purpose of fire prevention, by having an apparatus available for the purpose always ready. Paris has adopted the method propounded, as did Hamburgh long before, with a large reduction of its fires; and as to that matter, I beg to mention, by the way, so has Manchester, Liverpool, and Glasgow, as to fire prevention, with a reduction of their previous losses by fire by two-thirds. By this method of cleansing an appropriate impermeable pavement Paris has acquired the name of "clean-streeted Paris." And it is noted by French sanitary authorities that marked improvements in the health of the inhabitants have followed the extension of the improved impermeable paving and of this mode of surface-cleansing.

## CORRESPONDENCE.

## OUR LAST "IMPROVEMENT" BILL.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—What have you done to the Corporation that your name does not appear in the list of creditors now claiming for payment of their "little bills" for work and labour in promoting by "Bill" the improvement of the city? The following is the official list of improvers:—

|   |        |    |          |
|---|--------|----|----------|
| William Smith, London—taking references | £165   | 0  | 0        |
| Forster and Co.—lithographing           | ..     | .. | 39 15 0  |
| Hodges, Foster, and Figgis, do.         | ..     | .. | 9 10 0   |
| Tudor and Smith—scrivency               | ..     | .. | 6 11 7½  |
| Parke Neville—expenses                  | ..     | .. | 4 13 0   |
| R. W. Walsh—preparing plans             | ..     | .. | 26 5 0   |
| Dollard and Co.—printing                | ..     | .. | 210 13 2 |
| Freeman's Journal—advertisements        | ..     | .. | 123 3 0  |
| Daily Express                           | ..     | .. | 148 15 0 |
| Mail                                    | ..     | .. | 155 13 6 |
| Nation                                  | ..     | .. | 16 16 0  |
| Irish Times                             | ..     | .. | 135 12 0 |
| Saunders                                | ..     | .. | 140 0 0  |
| Farmers' Gazette                        | ..     | .. | 13 10 0  |
| Muggeridge and Badham                   | ..     | .. | 310 16 8 |
|   | £1,506 | 13 | 11½      |

Given: a bill thrown out on standing orders costing £1,506, how much should one that passed cost? Considerate, was it not? to give the Farmers notice through their *Gazette*, and the Irish Nation through its own organ; but why pass over the IRISH BUILDER and the patriotic *Irishman*? A RATEPAYER.

[Our correspondent is rather inquisitive, though we must acknowledge his queries are pertinent at present. We willingly publish his letter, as he is an old and respectable

citizen of worth as well as "A Ratepayer." The letter and list will speak for themselves, and scarcely need much comment. Perhaps in our opening article to-day, written before the receipt of the above letter, reasons will be found why uncompromising professional journalistic advocacy occupies in this city an isolated position. We have knowledge to sell, and not moral principles,—the former is offered for the service of all, the latter are retained for our own safety and honour. There is nothing wrong *per se* in journals canvassing or accepting advertisements; but the criminality is where orders are given as a condition, or implied condition, that silence will be preserved, and nothing disagreeable will be said of public men or bodies by the public advocates pecuniarily assisted. We would rather not have to speak to-day if it could have been honestly avoided. Called upon, however, we unhesitatingly publish the above list, which we have no doubt would be declined by our favoured contemporaries, for obvious reasons.]

## THE MACHINERY OF GAS TRADING.

TO THE EDITOR OF THE IRISH BUILDER.

DURING the adjourned debate on Alderman Gregg's perseverance under different aliases to do the gas-fitting for the Corporation, and pocket the profits gained thereby, at the meeting of the Corporation on the 17th inst., there was unmasked a piece of jobbery that appears to have been carried out with charming impudence, and cool bravado. The entire shamelessness displayed by the worthy Alderman while defending the charge brought against him was almost superhuman. It would appear that from the earliest record of the gas-fitting accounts in the Corporation books, that Gregg and Son were paid for doing such work, until 1868, when payment was refused by the committee to that firm. After that the gas-fitting accounts were furnished under the name of "T. Ruckley" until 1872, when the committee of the Corporation, smelling a rat, and seemingly unwilling to do their duty in a straightforward manner, made an order that in future all orders for gas-fittings should be given by the Inspector of Public Lighting. A change is then made, and during the year 1873, "Messrs. Curtis and Little" (as I believe) receive payments for all such work. Since then, it appears that the Inspector of Public Lighting steadily patronised a firm trading under the style and title of "Wm. Mooney and Co." I may now ask, if Alderman Gregg's foreman did not answer the name of "Little," and was not he the party named in gas-fitting accounts of the Corporation for the year 1873. Again, who in the gas-fitting trade ever heard, during the past ten years, of a contractor of the name of "Mooney"? Was not every male relative of that celebrated gas-fitter then deceased, as well as himself?

During his defence Alderman Gregg read a letter from the present secretary of the Gas Company, in which the writer stated that he went to London to endeavour to purchase a sun-light for the Mansion House, to be used at the ball given to the Prince of Wales; that he failed, and returned, and recommended that Alderman Gregg should get the job in the emergency; that the Alderman consented to do the work on receiving a promise of the writer's (invaluable) assistance, which was given by drawing the plans, &c. I never remember an instance in which a tinker so skilfully attempted to burn his adulterated incense on the flimsy altar erected by his ignorant vanity.

Where was the necessity of going to London to purchase the sun-light? and was there no gas-fitting establishment in Dublin in 1868 that could have made the sun-light in the stated time, except Messrs. Gregg and Son?

JAMES KIRBY.

29th December, 1877.

\* From the *Academy*.

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

TRAVELLING in our grandfathers' days was often a rather serious affair, and even their grandsons need not be old men to remember the time when there was not a railway line in Ireland, nor any sanguine hope that the old stage coach and mail coach or canal boat would be superseded so rapidly. A journey to London necessitated an irksome sea voyage to Holyhead or Parkgate, as well as a journey of several hours by coach. Men settled their domestic affairs, and made their wills before they set out on a journey to London, Glasgow, or Edinburgh, or even to distant parts of Ireland, and the dread of highwaymen was a common dread often realised.

It is not yet one hundred years since the Irish General Post-office proper was established. Although a Postmaster-General for the British dominions was appointed in 1711, it was not till 1784 a separate establishment was opened in Ireland under the direction of two Postmasters-General. Mails commenced in England in 1784, and in Ireland in 1790. A Mr. Anderson, of Fermoy, first contracted to run a coach carrying the mail bags between Dublin and Cork, and a Mr. Greer, between Dublin and Newry. To carry out this mail system more fully, the Lord Lieutenant (the Marquis of Buckingham) purchased two coaches in London, and presented them to the Irish contractors. Shortly afterwards the Road Act was passed, which led to the opening of various parts of the country, by cross roads, lighter mail coaches or cars meeting the direct mail at different towns. Before the establishment of the General Post-office in Dublin, a "Penny Post-office" existed, opened in 1770, and for many years was attached to the larger body. This penny postal system was not a penny post proper, for a penny was charged on the receipt of each letter and a penny on its delivery. All letters not exceeding 4 ounces were forwarded from the Penny Post-office twice a-day in 1786 (Sundays excepted), at 9 in the morning and 4 in the afternoon, to any part of Dublin and to any place within four miles of Dublin. Some few years later we find the hours were changed to 10 in the morning and 5 in the afternoon.

Before the establishment of the mail coaches in connection with the General Post-office, there were what were termed "private expresses," which were forwarded from the General Post-office to any part of Ireland on paying 4d. per mile and 6d. the horn at each stage, with the usual fees. These expresses extended to London, for which £4 18s. 4d. was charged; to Chester, £2 2s. 10d.; to Liverpool, £2 17s. 6d.; to Glasgow, £4 18s. 11d.; and to Edinburgh, £5 6s. 4d. Hear it, ye fast young men of the present period! "Expresses travel at the rate of four miles an hour!" Ten years later—in 1796—when mail coaches were running, we find that these "private expresses" were still moving at the same old rate of four miles an hour, and the prices had advanced to 4½d. per mile and 6½d. the horn, &c.

Mails for England, at the date of which we are writing, left Dublin every day except Wednesday, and were due in Dublin every day except Wednesday. A single letter to London by way of Holyhead was 6d.; between London and Donaghadee, by way of Carlisle and Portpatrick, was 1s. In Ireland a letter for above 15 and not exceeding 30 miles was 3d., and for above 30 miles, 4d. Both in 1786 and 1796, and for years later, a letter for any part of North America was 1s. 6d. Irish farmers, peasants, and mechanics writing at the above period, and even in our own time, did not write their letters—when they were obliged to write them to their friends in America—on small sheets of note-paper. A good big penny sheet of writing-paper was purchased, and it was well crossed and re-crossed on each page betimes, giving all the news of the parish to the emigrant exile of Erin in the backwoods of "Ameriky." If a shilling had to be paid to the rapacious Post-

master-General or deputy, Pat took his benefit in "black upon white."

*Re* stage coaches in 1785, or say between ninety and one hundred years ago. A Kilkenney coach, kept by one James Haly, started from 76 George's-street in summer on Mondays and Thursdays. A coach for the same town, kept by a John O'Brien, started from Whelan's "Black Bull," Capel-street, on Wednesdays and Saturdays. In winter these coaches ran only once a-week, and in summer they occupied one day in running, and in winter a day and a-half. A Cavan coach started from 105 North King-street on Tuesdays at 7, winter and summer. An Athlone coach ran from John Hynes's, 11 Tighe-street, on Tuesdays, Thursdays, and Saturdays, going in one day. A Mullingar coach ran from the same house twice a-week. Two Drogheda coaches and a post coach ran on different days three times a-week from three different houses in Bolton-street. Three Newry coaches also started at different times in the week from the same street. A Limerick coach ran on Thursdays from 7 Bolton-street; a Birr coach started from the Sun Inn, in Queen-street, once a-week; a Clones coach from 105 North King-street once a-week; a Monaghan coach from the same place once a-week; and a Wexford coach from Kelly's, Duke-street, once a-week. A stage vehicle called "The Man of War Flying Post-Chaise" ran to the town of that name from Leonard and Kenedy's, 9 Cross-lane, off Bolton-street.

In 1796 we find that the Armagh Fly Coach with a guard started from Kennedy's, 71 Capel-street, three times a-week "has for expedition six sets of horses," and ran in one day, the fare being £1 8s. 2d. The Derry stage coach set out with a guard from the Hibernian Hotel, 105 Capel-street, three times a-week; fare, £2 16s. 10½d. The Cork two-day coach started with a guard from Cook's Hotel, Exchequer-street, on the mornings of Sunday, Wednesday, and Friday; fare, £3 2s. 10d. The Drogheda coach, every morning except Sunday, from Capel-street, had a fare of 8s. 11½d. The Enniskillen and Cavan coach, from Pott's, 105 North King-street, twice a-week; fare, £1 1s. 8d. The Leitrim coach, from Tighe-street, three times a-week; fare, £1 6s. The Newry and Dundalk fly coach, starting with a guard from Kennedy's, 71 Capel-street, at the period named (1796), ran three times a-week, taking four passengers for Newry and two for Dundalk, having for expedition "five sets of horses, and making the journey in a day"; fare, £1 0s. 7½d.

The reader of to-day will, by what we have given above, be able to estimate the pleasures and perils and expedition of stage-coach travelling between eighty and ninety years ago. We might give nearly the same picture of stage-coach travelling in Ireland half a century since, although improvement had taken place through the mail-coach service and Bianconi's system of cars, and those established by other private proprietors.

The old police or watch system in Dublin towards the close of the last century and for several years in the present was a most defective and in many respects most pernicious and incompact one. Still a large number of the citizens had their prejudices, and the Bulkies or old Charlies, with their rattles and poles, had a long life and died a hard death. The system of *watchmen* was established in the reign of George I., but these watchmen often watched their own interests instead of the public, and connived at robberies, plunder, and violence. In fact, many of these watchmen of the eighteenth century were like the London detectives of the present day convicted of aiding in robberies, and some of them with murders.

In 1785 Mr. Orde introduced in the Irish Parliament a police act. This body was for a time deemed efficient, but being appointed by the Government, the citizens grew jealous of their interference, and resented in being placed under the control of the military force. Several efforts were made in Parlia-

ment to abolish the police, and substitute city guardians less offensive to the inhabitants. Opposition on the part of the public, and a resistance for ten years on the side of the Government, led to many serious results to the country.

In 1795 the Police Act was at length repealed, and the old defective system of watchmen restored. The wretched system continued for ten or twelve years, until the period when the Duke of Wellington was Secretary of State in Ireland. The Duke introduced a police act which with little alteration continued down till the establishment of the new police force forty years ago. The old police system consisted of eighteen magistrates, six of whom were aldermen, six sheriffs' peers, and six barristers of not less than six years' standing. One-half the number was selected by the Government and the other by the Common Council. Under the Duke of Wellington system the police were under the control of the Chief Magistrate, aided by eleven others, three of whom sat daily at one of the offices of the four divisions according to which the city was arranged. To each office a chief constable and petty constables were attached. The police force consisted of a horse patrol of 29 men, a foot patrol of 169, 26 watch constables, and 539 watchmen or "Bulkies," or Charlies; and this system was maintained at an expense of about £40,000 per annum.

The Police Act of 1836 placed the metropolis under two magistrates appointed by the Lord Lieutenant, and the boundaries of their jurisdiction extended to the River Dodder on the south, the River Tolka on the north, and Knockmaroon Hill on the west. These boundaries might be extended at the discretion of the Lord Lieutenant and Privy Council to any place within five miles of Dublin Castle. Other powers were given to the Viceroy for reducing the number of divisions or magistrates. The city was assessed for the payment of this establishment by a rate not to exceed eightpence in the pound, according to the valuation made under the acts of the 5th of George IV.

Under the old police establishment licences were granted to all hotel keepers, publicans, pawnbrokers, &c. About the year 1821 the following return, which is probably near the truth, will afford a picture of the extent of the hotel, pawnbroking, and vehicle accommodation in Dublin between fifty and sixty years ago. There were 55 pawnbrokers, 28 hotel keepers, 150 licensed hackney coaches, 140 job and 20 mourning coaches, 750 jaunting cars, 3,700 town cars, 1,600 country cars, 260 brewers' drays, and 65 hackney sedans. A sedan chair would now be a curiosity in Dublin, and not one has been seen in our streets for many years; the last of them we remember seeing was between twenty-five and thirty years ago at the old stations in Hume-street and beside the Rotundo Gardens, Palace-row. One at each station lingered long after all others had disappeared from the streets. Those alluded to seem to have been kept principally for the accommodation of some octogenarians of the last century; and when these quaint old souls died ont, the poor chairmen followed the melancholy suit, and their stations knew them no more.

Of late years, like echoes of the past, the words the "Aldermen of Skinner's-alley" might be heard occasionally muttered at Corporation meetings; and friends and correspondents have often put us the query, Who are or were the aldermen alluded to? The story is briefly told. James II. in 1688 obliged the Protestant part of the Corporation to retire from office, and the ousted members concealed themselves for a while in Skinner's-alley, in the Earl of Meath's Liberties, the place of their retreat. The victory of the Boyne restored the proscribed again to power, but down till the date of the "Reformed Corporation" they retained the name of the "Aldermen of Skinner's-alley." We might add that the aldermen were also Aldermen of Skinner's-row (now Christchurch-place), for in the old

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## LIST OF ILLUSTRATIONS.

|  | Page     |
|--|----------|
| New Transept, Church of St. Teresa, Clarendon-street                 | 7        |
| Antient Irish Crosses  | 21       |
| St. Patrick's Convent of Mercy, Downpatrick                          | 38, 39   |
| Design for Proposed Monument to the late Viscount de Vesci           | 55       |
| New Church, Schools, and Presbytery, Falcarragh, Diocese of Raphoe   | 67       |
| Gretton Villas, Bladon Park, Belfast                                 | 81       |
| Irish Temperance League Buildings, Lombard-street, Belfast           | 97       |
| Queen Anne Chimney-Piece in the Rookery, Stanmore, Middlesex         | 113      |
| New Church, Templemore   | 129      |
| New Carlisle Bridge  | 144      |
| New Swing Bridge East of Carlisle Bridge                             | 144      |
| New Chancel, St. Brendan's Church, Birr                              | 161      |
| Competitive Design for New Town Hall, Wakefield                      | 174      |
| Church of St. Patrick, Dungiven                                      | 189      |
| Chapel of our Lady of Lourdes, Carmelite Church, Dublin              | 205      |
| Scottish Widows' Insurance Buildings, Westmoreland-street, Dublin    | 222, 223 |
| New Chapel, Convent of Mercy, Bantry                                 | 243      |
| Thurles Cathedral  | 255      |
| National Bank, Waterford   | 271      |
| Design for Town Hall   | 287      |
| Sketch for Proposed Public Offices and Market Entrance, Huddersfield | 319      |
| Hereford Cathedral—Interior  | 335      |
| Presbyterian Secession Church Buildings, Belfast                     | 351      |
| New Building, Queen-street, for Belfast Hospital for Sick Children   | 366, 367 |

# INDEX TO VOLUME XIX.

- ABBEYLEIX**, De Vesci memorial fountain, 278  
 Adelaide Hospital, additions to, 78  
 Adversaria Hibernica, see each number  
 Agricultural labourers' dwellings in Ireland, 243  
 Air and disease, 19  
 Air and light, 227  
 Ancient buildings, protection of, 258  
 Ancient Irish crosses, 16  
 Ancient lights, 133, 229  
 Antiquity of man, 34  
 Apprentice Boys' memorial, Derry, 262  
 Archaeological societies' excursions, 236  
 Architects' assistants, 172  
 Architects' fees, taxing masters and, 181; action for, 246  
 Architectural Association, London, 173, 323, 353;  
 Royal Institute of British Architects and the, 135.  
 Architectural controversy, an unextinguishable, 249, 265.  
 Architectural illustrations, 44  
 Architectural reform, 107  
 Architectural representation, Irish, 126  
 Architecture, criminal, and criticism, 124  
 Architecture, Prof. Barry's lectures on, 69, 87, 95, 111, 131, 143, 159, 178, 188, 204, 219, 237, 253  
 Architecture, the hope (forlorn) of, 158  
 Armagh science and art classes, 284  
 Art and labour, 292  
 Art and literature, Irish Franciscan, 281  
 Art and science classes in Armagh, 284  
 Art, ancient Irish, revival of, in Ballinasloe, 169  
 Art education at home and abroad, 110  
 Art, Greek and Roman, 318, 337, 354, 370  
 Art, the historical development of, 12, 27, 31  
 Art, industrial, 94  
 Art, the Home Secretary on, 373  
 Art-needlework, exhibition of, 69  
 Art Schools of the Royal Dublin Society, 93, 51, 300  
 Art teaching in Dublin, 92  
 Artisans' Dwellings Company, Dublin, 78, 277  
 Artisans', Labourers', and General Dwellings Company, London, 89, 245  
 Artisans' Dwellings Act: in Dublin, 11, 151, 325; in London, 135  
 Artisans' dwellings, the Premier on, 195  
 Artisans' Institute, London, 180  
 Artisans, Irish, proposed visit of, to Paris, 291  
 Asphalte and wood pavements, 43  
 Asphalte notes from Kingstown, 46  
 Aryan origin of the Gaelic race and language, 91, 108, 123  
  
**BALDOYLE**, the city property at, 243  
 Balfe memorial, 151, 373  
 Bantry convent chapel, 236  
 Bardic memorial, a, 157  
 Barrow drainage, 212  
 Bath: Butler's moderator shower, 300; the great Russian, New York, 357  
 Belfast, a history of, 225  
 Belfast, Gretton Villas, Bladon Park, 101  
 Belfast Convalescent Home, 318  
 Belfast Hospital for Sick Children, 364  
 Belfast Presbyterian Memorial Secession Church Buildings, 353  
 Belfast Temperance League Buildings, 101  
 Beranger's, Gabriel, trip to the County Wicklow, 212  
 Birkenhead landing-stage, 92  
 Blackrock Township, 358  
 Blackrock and Kingstown, doings in, 245, 343  
 Board of Public Works inquiry, 236  
 Books, pamphlets, &c., received:—Dr. Zerffi's Manual of the Historical Development of Art, 12; Knight's Practical Dictionary of Mechanics, 18, 29, 101, 227; Cracroft's Trustees' Guide, 18; Don Pedro Verad's Expostulation with the Co-operative Societies, 43; Canon Bourke's Aryan Origin of the Gaelic Race and Language, 78, 91; Journal of the Royal Historical and Archaeological Association of Ireland, 78, 165, 356; Seventeenth Report of the Amalgamated Society of Carpenters and Joiners, 101; Canon Dwyer's Church of Ireland General Sustentation Fund Considered, 165; Journal of Forestry and Estates Management, 165; 202, 227; Bales's Builder's Clerk, 197; Forty-fifth Report from the Commissioners of Public Works in Ireland, 199, 202; Canon Bourke's Sermons in Irish-Gaelic, 202; Benn's History of Belfast, 225; Meehan's Rise and Fall of Irish Franciscan Monasteries, &c., 227, 281; O'Neill's Round Towers of Ireland, 249; Potter's Concrete in Building Walls, Floors, &c., 252; Industrial Art, 291; The First Irish Book, 291; Transactions of Institution of Civil Engineers of Ireland, 340; Eason's Almanac, 356  
 Boring the earth with a diamond crown, 133  
 Brake power, application of, to control railway trains, 260  
 Brickmakers, breach of agreement by, 278  
 Brick-making trade, Irish, 158  
 Bridges, free—the Liffey "Metal" Bridge, 151  
 Bridges, new, over the Liffey, 142, 165  
 Bright, John, M.P., the schooldays of, 290  
 Bromsgrove sewage works, 11  
 British Association, 246, 251; see also 182  
 Build, how shall we? who shall advise? 15  
 Builders' bills, learned judges and, 227  
 Building act, a: and street obstructions, 307; and other wants, 316  
 Building acts—rotten foundations, 104  
 Building: concrete, something novel in, 276; granite, 42  
 Building dispute in London, 323, 355  
 Building irregularities and Jerry buildings, 290  
 Building society reform, 174  
 Building societies: 323, 341, 350; in Dublin, 156; perils of, 116  
 Building societies and companies—Artisans' Dwellings, 277; Artisans' Labourers' and General Dwellings, London, 245; Dublin Mutual Benefit, 231, 244  
 Building trade: rise of wages in, 73; movement, Dublin, 193  
 Building trade disputes: England and Scotland, 117, 168, 186; France, 42  
 Buildings, ancient, protection of, 258  
 Buildings and public works, Mr. Gladstone's visits to, 339  
 Buildings, farm, and labourers' cottages, 211  
 Buildings for working men, 257  
 Burns statue, 43  
 Butler, Sir Tohy, tomb of, 13  
 CARPOQUIN industrial schools, 165  
 Carolin, Mr. John, builder, 59  
 Cathedral, Lisburn, 324  
 Cathedral, pro-, the, who designed? 3  
 Caxton exhibition, 209; see also "Printing and publishing"  
 Celtic language, the, 153  
 Cement, Portland, testing of, 72  
 Chapel of our Lady of Lourdes, 202  
 Church: St. Teresa, Clarendon-street, 12; Halifax restoration, 65; Omagh, 104; Templemore, 133; St. Brendan, Birr, 165; Rattoo, 284; Donaghendry, Stewartstown, 321; Tullow, 324; Aghaboe, 339; Presbyterian Memorial Secession, Belfast, 353; St. Paul's, Cork, 374  
 City: and Rathmines water supplies 5; improvements and sanitary reforms, 25; unhealthy areas in the, 117; sanitary police, 243; property at Baldoye, 243; sewers and the sewer rate, 373  
 City Hall, local inquiry at the, 136  
 Classic reaction and Gothic revival, Wren and Pugin or, 64  
 Clayton's patent fire-escapes, 186  
 Cleopatra's Needle, 273  
 Clonmel, a word for, and other words, 262  
 Clontarf new glebe house, 243  
 Cofferdams, 364  
 Coleraine waterworks, 337  
 Combustion of refuse vegetable substances, 60  
 Competitions, 353  
 Concrete building, something novel in, 276  
 Construction and ventilation hospital, 86  
 Convalescent Home, Belfast, 318  
 Convent: of Mercy, Downpatrick, 34; of Charity, Upper Gardiner-street, 117; Chapel, Bantry, 236  
 Conwell, Eugene Alfred, death of, 323  
 Coombe Lying-in Hospital, 152  
 Cork: School of Art, 26; St. Paul's Church, 374  
 Corporate items, 11, 73, 182; economy, 278  
 Corporation, Rathmines Commissioners and the, 262  
 Correspondence, 11, 12, 28, 32, 126, 151, 181, 193, 227, 323  
 Correspondents, To, see each number  
 Corrosion, treatment of iron for prevention of, 83, 103  
 Cottages, labourers', and farm buildings, 211  
 Court house and town hall for Kingstown, 92  
 Criticism, criminal architecture and, 124  
 Crosses, ancient Irish, 16  
  
 DAMAGES by storm and floods, 14  
 Damp courses, impervious material for, 66  
 "Deputy surveyor," the, 262, 323  
 Derry, Apprentice Boys' memorial, 262  
 De Vesci memorial fountain, Abbeyleix, 51, 278  
 Diana, Temple of, at Ephesus, 53  
 Disease, air and, 19  
 Domestic Economy congress, 212  
 Downpatrick, Convent of Mercy, 34  
 Drainage: house, 5; Glasnevin and Drumcondra, 12, 291, 310; Barrow, 212  
 Drains, our, 355  
 Drawing, a method of teaching, 202  
 Drogheda, Whitworth fountain, 3  
 Dublin: art teaching in, 92; port and dock improvements, 75; sanitary administration in, 252; sanitary progress in, 134; Artisans' Dwellings Act in, 151; building societies in, 156; gas question in, 309; a free public library for, 103; mortality in, 324; graving dock gates, 119; operatives of the old school, 139; building trade movement, 193; and Kingstown water supply, 202; south city market project, 236; deputy surveyor of the streets, 262  
 Dublin Improvement Bill, 46, 52  
 Dublin Metropolitan School of Art, 51, 93, 300  
 Dublin Sanitary Association, 180  
 Dundalk, doings in, 252  
 Dwellings: agricultural labourers', in Ireland, 243; escape of sewage gas into, 168; of the poor in large towns, 324  
  
 EDUCATION, art-, at home and abroad, 110  
 Education, female, and industrial employment, 32  
 Education, industrial, 134  
 Education, national, local museums as a part of, 62  
 Education, scientific, advantages of, 322  
 Education, technical, 174, 277, 300; Prof. Huxley on, 372  
 Electric candle, the, 167, 291  
 Electric light, the, 194; in workshops, 324  
 Employers and workmen—England and Scotland, 101  
 Employés, railway, the housing of, 257  
 Engines, steam tramway, 151  
 Enigma, 374  
 Exhibition of art-needlework, 69  
  
 FEES, action for: architects', 246; surveyor's, 197, 210, 337  
 Fire escapes, Clayton's patent, 186  
 Floods, prevention of, and storage of water, 276  
 Forster's (the late John) bequest, 167  
 Foundations, rotten—building acts, 104  
 Foundry, sale of a, 263  
 Franchises, riding the, 155, 171, 316  
 Free library question and other questions, 69  
 Free public library: the first, 93; for Dublin, 103  
  
 GAELIC race and language, Aryan origin of the, 91, 108, 123  
 Gas: company and the press, 290; question in Dublin, 309; mechanism and supply, 323  
 Glasgow, sanitary improvements at, 273; Stobcross docks, 286  
 Glasnevin and Drumcondra drainage, 12, 291, 310  
 Glebe house, Clontarf, 243  
 Glengarriff, Bantry Bay, sanatorium, 292  
 "Gospel of Labour," Giotto's, 58  
 Gothic revival and Classic reaction, Wren and Pugin or, 64  
 Granite building, 42  
 Graving dock gates, Dublin, 119  
 Gray, Sir John, memorial, 73, 373  
 Gretton villas, Bladon Park, Belfast, 101  
  
 HANDICRAFT trusts—the London city companies, 33  
 Harbour, Wexford, shifting sands at mouth of, 84  
 Health: and sewage of towns, 132; house drains in relation to, 270; public, in Ireland, 165  
 Historical development of art, 12, 27, 31  
 Hospital: construction and ventilation, 86; Adelaide, additions to, 78; Coombe Lying-in, 152; for Sick Children, Belfast, 364  
 House drainage, 5  
 House drains in relation to health, 270  
 Housing of railway employés, 257  
 How shall we build? who shall advise? 15  
 Hygeiapolis, 27

# INDEX TO VOLUME XIX.

IMPROVEMENTS: city, and sanitary reforms, 25; Dublin port and dock, 75; public, obstacles to, 361  
Imperious material for damp courses, 66  
Industrial art, 94  
Industrial education, 134  
Institution of Civil Engineers of Ireland, 117, 149, 182  
Institution of Civil Engineers, London, 6, 158, 196, 337  
Inventions, patents for, 61  
Ireland: national monuments of, 52, 140, 157; physical features of, 62; public health in, 165; public works in, 199, 215, 233; agricultural labourers' dwellings in, 243; printing and publishing in, see "Printing"

Irish architectural representation, 126  
Irish artisans, projected visit of, to Paris, 291  
Irish brickmaking trade, 158  
Irish Franciscan literature and art, 281  
Irish language, preservation of the, 76, 135, 186  
Irish slate trade, 268  
Irish stage, notes on the early history of the, see each number  
Irish Temperance League Buildings, Belfast, 101  
Iron, treatment of, for prevention of corrosion, 83, 103

JAPAN notes, 374  
Jery buildings and building irregularities, 290  
"Jerryism" and sham patriotism, 126  
Journalists, gentlemanly, 158

KINGSTOWN: 291; asphaltic notes from, 46; town hall and court-house, 92; new works, 278; sanitary talk and work in, 309; sewerage works, 276  
Kingstown Commissioners, 126  
Kingstown and Blackrock, doings in, 245, 343  
Kingstown and Dublin water supply, 202

LABOUR: art and, 292; manual, the dignity and value of, 101; mental, manual, and machine, 297  
Labourers' dwellings in Ireland, 243  
Labourers' cottages and farm buildings, 211  
Landing-stage at Birkenhead, 92  
Language, Aryan origin of the Gaelic race and, 108  
Language, Irish, preservation of, 76

LAW—Sir J. W. Mackey v. Scottish Widows' Insurance Company, 133, 229; Todd v. Carmichael, 133; McConnell v. Kilgallen, 197, 210, 337; Robinson v. Duggan, 246; Hayden v. Byrne, 278  
Leinster House and the proposed Science and Art Museum, 372

Library, free public: question, 69; the first, 93;  
Librarians, conference of, 301  
Liffey, the new bridges over, 142  
Light and air, 133, 227  
Light, new electric, 194; in workshops, 324  
Limerick: sanitary condition of, 244; public park, 252  
Lisburn Cathedral, 324  
Literature: and art, Irish Franciscan, 281; round tower, 32; of trades unionism, 310  
Liverpool Engineering Society, 340  
Lock out, a, 28  
London: artisans' and labourers' dwellings in, 135; public statues in, 196; a building dispute in, 323; masons' strike, 246, 292, 323, 355  
Longevity, 104  
Lunatic asylums, 43

MACHINERY, water-pressure, 164; wood-working, 104  
McAnaspie, Thomas: death of, 332; in memoriam, 332  
Main drainage question, the, 105  
Man, antiquity of, 34  
Market, south city, project, 236  
Masonic Hall, Molesworth-street, opening of, 364  
Masons' strike in London, 246, 292, 323, 355  
Masters and workmen, 359  
Mechanics' institutes, 166  
Memorial: Apprentice Boys', Derry, 262; J. W. Balfe, 151, 373; Dr. Beatty, 11; De Vescei, 51, 278; Sir John Gray, 73, 373; Dean O'Connell, 133; Captain Richards, 11; Colonel Taylor, 158; Chief Justice Whiteside, 11; a bardic, 157  
Mental, manual, and machine labour, 297  
Milk from the "Milky Way," 309  
Model lodgings, 279  
Monument: O'Connell, 73; preservation of a national, 78  
Monuments, national, of Ireland, 52, 62, 140, 157  
Mortar mixing, 306  
Mortality in Dublin, 324  
Motive power, transmission of, to distant points, 100  
Municipal council, business of a—what is it? 117  
Municipal doings, 275  
Municipal townships' doings, 119  
Museum, science and art, proposed, 51, 76, 86  
Museums, local, as a part of national education, 62

NATIONAL Bank, Waterford, 268  
Newry: 364; and its sanitary condition, 181  
New York: jottings from, 244; the great Russian bath, 357  
Northern suburbs, the: 218; and projected new township, 345  
Notes, home and foreign, see each number

Notes, sanitary and other, 14, 126, 246  
Notes of works, 78, 133, 158, 245, 310, 357

OBITUARY: John Carolin, 59; Eugene A. Conwell, 323; W. B. Kelly, 186; Thomas McAnaspie, 332; Edmund Sharpe, 157; Sir M. Digby Wyatt, 157  
Obstructions, street, a building act and, 307  
O'Connell monument, 73  
O'Connell (Dean) memorial, 133  
Organs: Convent of Charity, 117; Lisburn Cathedral, 324; Omagh Church, 104; St. Paul's Church, Cork, 374; Tullow Church, 324  
Olympia, 14  
Operatives, Dublin, of the old school, characteristics of, 139

PAINT, zinc white as, 70  
"Paddle your own canoe" 211  
Paper-hangings, 303  
Paris, proposed visit of Irish artisans to, 291  
Patents for inventions, 61  
Pavements, wood, new method of laying, 110, 150  
Pavements, asphaltic and wood, 43  
Paving, wood, 28  
Perspectives, 42  
Plumbing, 17, 32; text-book of, 28  
Port and dock improvements, Dublin, 75  
Portland cement, testing of, 72  
Postal irregularities, 4  
Printing and publishing in Ireland, rise and progress of, 183, 200, 216, 234, 250, 266, 282, 298, 314, 329, 346, 362  
Professional architectural reform, 107  
Prussia, the working classes in, 185  
Public health in Ireland, 165  
Public improvements, some past and present obstacles to, 361  
Public park, Limerick, 252  
Public free library, the first, 93  
Power, motive, transmission of to distant points, 100  
Public works and buildings, Mr. Gladstone's visits to, 339  
Public works in Ireland, 199, 215, 233

QUALITIES of timber, 13, 24  
Queen Anne chimney-piece in Rookery, Stanmore, 115  
Queen's Institute—female education and industrial employment, 32  
Queries, 142

RAIL, the row on the, 307  
Railway employes, housing of, 257  
Railway trains, application of brake power to control, 260  
Railway wastes and reclamation, 36  
Railways—Cleminson's improved rolling stock, 372  
Ratepayers, revelations for, 72  
Rathmines and city water supplies, 5  
Rathmines and Pembroke townships, 181  
Rathmines Commissioners and the Corporation, 262  
Rattoo: 275; new church at, 284  
"Restoration": progress of, 305; Halifax church, 65; versus restitution, MacSarcasm on, 149  
"Restorations," anent, 45  
Roads and streets, 358  
Rolling stock, Cleminson's improved, 372  
Room ventilation, 180, 193  
Round tower literature, 32  
Royal Albert Hall, utilization of the, 43  
Royal Dublin Society, 86, 306; School of Art, 51, 93, 300  
Royal Geological Society of Ireland, 41, 85, 110, 153  
Royal Historical and Archaeological Association of Ireland, 110  
Royal Institute of the Architects of Ireland, 70  
Royal Institute of British Architects: 28, 52, 71, 174, 196, 342, 349; new rules of the, 126; and Architectural Association, 135  
Royal Irish Academy, 69, 77, 117, 152, 157, 182, 195, 329

SACKVILLE-STREET, the trees in, 5, 355, 373  
St. Brendan's Church, Birr, 165  
St. Paul's Church, Cork, new organ, 374  
St. Teresa's Church, Clarendon-street, 12  
Sanatorium, Glengariff, Bantry Bay, 292  
Sanitary: and other notes, 14, 126, 246; reforms, 25; good news, if true, 45; talk and sanitary action, 49; progress in Dublin, 134; reformers, recognition of, 180; sinners, 227; city, police, 243; law, how carried out, 244; administration in Dublin, 252; improvements at Glasgow, 273; matters, 294; office, sinecure, 307; talk and work in Kingstown, 309  
Sanitary condition: Newry, 181; Limerick, 244; royal palaces, 316  
Sanitation, humane, 34  
"Scalp," The, origin of, 93  
School of Art: Cork, 26; Dublin, 51, 93, 300  
Schools, industrial, Cappoquin, 165  
Science and art classes, Armagh, 284  
Science and Art Department, South Kensington, 227

Science and Art Museum, the proposed, 51, 76, 86, 152, 313, 329, 372  
Science, familiar chapters upon—antiquity of the earth, 19; climatic changes, 109; antiquity of man, 125  
Scientific education, advantages of, 322  
Sewage: disposal of, 9; Bromsgrove works, 11; question, 54; and health of towns, 132; gas, escape of, into dwellings, 168; ventilation, *Sanitary Record v. Builder* on, 186

Sewerage: Kingstown, 276; Warrenpoint, 316  
Sewers, city, and the sewer rate, 373  
Slate trade, Irish, 268  
Social Science congress, 276, 292, 294  
Social reform and the working classes, 59  
Specifications, conditions in, 193  
Statistics, vital, 286, 310  
Statue to Burns, 43  
Statues, public, in London, 196  
Steam tramway engines, 151  
Storm and floods, damages by, 14  
Street tramways, 134  
Street obstructions, a building act and, 307  
Streets: and roads, 358; wasbing the, 372; deputy surveyor of the, 262, 323  
Strike: on, 307; row on the rail, 307; London masons', 246, 292  
Suburbs, northern: 218; and projected new township, 345  
Surveyor, deputy, of the streets, 262, 323  
Surveyor's fees, action for, 197, 210, 337

TECHNICAL education: 174, 277, 300; Prof. Huxley on, 372  
Technical university for workmen, 149  
Telegraphy, facsimile, 26  
Telephone, the, 259, 355  
Temperance, the science of, 278  
Temple of Diana at Ephesus, 53  
Templemore Catholic Church, 133  
Tenders, 181, 197  
Theatres, safe, 5  
Thunderstorm, 195  
Timber: qualities of, 13, 24; circular, 89; sales, 117  
Timber and slate trade, 263  
Timber trade notes, 25  
Tomb of Sir Toby Butler, 13  
Town, English, growth of an, 196  
Town Hall: Kingstown, 92; Wakefield, 174  
Towns: health and sewage of, 132; dwellings of the poor in, 324  
Township: Blackrock, 358; projected new, and northern suburbs, 345  
Townships' doings, 119  
Trades Union congress, 59, 269  
Trades unionism, literature of, 310  
Trains, railway, application of brake power to control, 260  
Tramway engines, steam, 151  
Tramways, street, 134  
Trees in Sackville-street, 5, 355, 373

UNEMPLOYED benefit money, 133  
Unhealthy areas in the city, inquiry as to, 117

VANGUARD, the, 230  
Vegetable substances, refuse, combustion of, 60  
Ventilation and construction, hospital, 86  
Ventilation, room, 180, 193; sewage, 186; some eighteenth-century plans and nineteenth-century systems of, 50  
Victoria, the colony of, 230  
View and review, a, 1  
Vital statistics, 286, 310

WAGES, rise of, in the building trade, 73  
Warrenpoint sewerage, 316  
Wastes and reclamation, 36  
Water, storage of, and prevention of floods, 276  
Water-pressure machinery, 164  
Water supply: Dublin and Kingstown, 202; North Dublin Union Workhouse, 152, 158, 196  
Water supplies, city and Rathmines, 5  
Waterworks, Coleraine, 327  
Waterford National Bank, 268  
Weights and Measures—and urgent reform, 194  
Wexford harbour, shifting sands at mouth of, 84  
Wood and asphaltic pavements, 43  
Wood paving, 28  
Wood pavement, 150  
Wood pavements, new method of laying, 110  
Wood-working machinery, 104  
Wood goods auctions, 310  
Work and wages, 306  
Works, notes of, 78, 133, 158, 245, 310, 357  
Working classes: social reform and the, 59; position of our, 63; in Russia, 185  
Working men, buildings for, 257  
Workmen: employers and, 101; masters and, 359; technical university for, 149  
Workshops, the electric light in, 324  
Writing machine or type-writer, 284

ZINC white as paint, 70

Tholsel or corporation building in Skinner's-row the municipal business for upwards of a century was transacted. The Tholsel was erected in 1683, and was used till near the close of the last century. It stood at the corner of Nicholas-street, and the site was let in 1807 for buildings by the old Corporation. H.

### THE ROYAL DUBLIN SOCIETY.

At the evening scientific meetings in the three sections, held on the 17th ult., a number of useful and interesting papers were read.

In the Natural Science Section, geology came in for special attention. Professor Hull, F.R.S., introduced a paper by himself and his colleague, Mr. E. T. Hardman, F.C.S., "On the Nature and Origin of the Chert-beds in the Upper Carboniferous Limestone of Ireland." Professor Hull said that, instead of reading the paper at length, he would give a *viva voce* description, and as he proceeded he referred to the very artistic illustrations, suspended on the wall, of the limestone formations of Ireland. The carboniferous limestone, he said, underlies the greater part of the central plain of Ireland, over which, however, it is generally concealed by beds of drift gravel, sand, and boulder clay, which are spread over the lower grounds and the adjoining slopes of the hills—along the south-east by the limestone plain, the granite and silurian rocks of the Dublin and Wicklow Mountains; along the south and south-west by the ridges of old red sandstone which rise into the mountain ranges of Cork and Kerry; on the west by the metamorphic and upper silurian rocks which form the Mountains of Connemara and Mayo; along the north-west by the Donegal Islands, formed of similar strata; and along the north-east by the uplands of Westmeath, and the mountainous region of Slieve Gullion, Carlingford and Mourne, deeply indented by Carlingford Lough, and the channel of the Newry Canal. Thus in every direction the central plain is bounded by mountain ranges, but at rare intervals the limestone forms the marginal coast line to the country, as along the shores of Dundalk, Dublin, Galway, Sligo, and Donegal Bays. The Professor stated the limestone consisted exclusively of deposits of corals, crinoids, foraminifera, and molluscs, whose shells and skeletons may be found everywhere embedded in the rock. In the upper limestone formations these fossiliferous remains have been converted by a process of pseudomorphism into a siliceous material called chert. These marine deposits were made in deep water, and afterwards raised up, and while under the influence of the conditions of shallow water were converted into siliceous matter. When they took pieces of this rock into their hands they generally found that it was composed of the shells and skeletons of organic bodies which were clearly referable to organisms that lived in the sea at that period.

Mr. Hardman read a paper "On a Chemical Analysis of specimens of Limestone Rock."

Professor Hull read a paper on the "Discovery of Brine in the Valley of the Mersey at Warrington." He exhibited specimens of building and ornamental stones from Jeypore, India.

Professor Harkness, F.R.A.S., exhibited a specimen of Idocrase rock from Cumberland, and Professor Macalister exhibited curious mud-built nests of several species of oven-bird, *Furnariidae*.

In Section III.—Science applied to the useful Arts and Industries—Mr. Samuel Hunter, F.R.A.S., read a paper on "The Various Forms of Apparatus used for Polish-ing Specula for Reflecting Telescopes."

Mr. Howard Grubb, C.E., F.R.A.S., made a communication on "Babbage's System of Mechanical Motion as applied to Automatic Machinery." Mr. Grubb explained the system of notation, which was devised by the celebrated Charles Babbage in the year

1826, and then presented to the Royal Society. It had since fallen into abeyance. Mr. Grubb pointed out various applications of the system, and how it might be made available for engineers for the purpose of graphically representing the action of machinery. In connection with the communication, and as a means of additional illustration, Mr. Grubb exhibited an interesting automatic numbering machine.

### ENIGMA.\*

I'm nearly last of all my family,  
And seldom take a middle course you'll find,  
Oftener first and last alternately,  
Pursuing my duties with mankind.

When hailing fresh from Athena's shore,  
In a different track I'm borne;  
They've lately pressed me into scientific lore,  
Where, 'tis said, I seem like one forlorn.

Shade of fair Pallas! look down on me,  
Erst while I thought I'd quite enough to do;  
Inventive genius now strains a point to see  
How far my energies may be taxed anew.

Before proceeding further, 'tis well to know,  
Should I ignore you, some fine day  
You'll have to travel—most likely go  
Only where they *parle Francais*.

In the beginning of the year  
You may be sure you'll find me;  
Stranger still it is to hear,  
I'll not tell it yet, don't mind me.

Well, as years roll on, like the wandering Jew,  
Once I appear in each century;  
And, like him, perhaps, I'm ever new,  
To turn up at last in eternity.

I am not quite as old as man—  
I mean man's time on earth;  
When new wants and luxuries began,  
I own to them I owe my birth.

In olden times, in olden lore,  
I was, and ever found with ye;  
Yet how odd it makes my rhyme,  
My place now's filled by curtailed thee.

I remember long years ago I was voted ass,  
Because, protesting 'gainst innovation,  
Two junior fellows in my class,  
Oft thrust me out of my vocation.

Now that I'm old, I know not why they place me  
Sentinel over a good old honest Saxon,  
Called, I know it, to disgrace me,  
And drive me to distraction.

In every fay and fairy scene,  
In their orgies, in their lays nnholy,  
Always in the valley green,  
With them your sure to meet with me.

In flowery heds midst dewy sward,  
In velvety turf, in the cypress there;  
In the yew tree, shadowing the dim churchyard,  
With the fairy host I'm always there.

I've told enough; what I tell's quite true,  
For history upholds my fame.  
I could tell more; but, being so much with you,  
Of course you very well know my name.

### DOCUMENTS RELATING TO IRELAND IN THE THIRTEENTH CENTURY.

In an article in the *Academy* Mr. John T. Gilbert, M.R.I.A., &c., writes an instructive article by way of review on a subject with which his own researches and studies have made him quite familiar. The work which he reviews was recently published by the Messrs. Longmans, entitled "Calendar of Documents relating to Ireland preserved in her Majesty's Public Record Office, London," edited by Mr. H. S. Sweetman, M.R.I.A., &c. We print Mr. Gilbert's article entire, for, apart from the few quotations he gives from the work under review, his remarks otherwise will be found pertinent and suggestive to Irish historical and archaeological students and readers, and quite in place in the columns of the IRISH BUILDER:—

In this volume the compiler presents us with his epitomes in English of nearly 2,400 instruments, extending from A.D. 1252 to 1284, extant among the records of the Courts of Chancery, Exchequer,

Queen's Bench, and Common Pleas. The Patent, Close, and Charter Rolls of England, with other Chancery records, supply the great majority of the documents, those derived from the other courts being small in number. The originals of which the abstracts in English are here given, are written in contracted Latin, with the exception of a very few in Anglo-Norman. It is to be regretted that they throw but little light on the history of the native population of Ireland. Their nature and bearings are mainly legal, connected with Governmental, fiscal, and official affairs, or legal transactions, detailed in technical terms of the driest character, rarely varied by matter which would invest them with interest or relieve their aridity.

Although the public may be thankful for this guide in English to documents in the Public Record Office in London, which contain matters connected with Ireland, it would be a serious loss to the world if such epitomes should be permitted in any way to interfere with the printing in full of the Patent, Close, and Charter Rolls of England, on which are entered all the most important instruments of this class. The highest authority on Records in England has, with truth, told us that abstracts of such documents can never be satisfactory. In being furnished with transcripts of the documents themselves the reader can suffer no disappointment.

"For," adds Sir T. Duffus Hardy, "it often happens that what is deemed worthless by some may be held by others to be of the greatest value; nor can he have any anxiety to see the originals—instigated by the possibility of discovering some different reading, or other matter, which had escaped the notice and proper attention of the abstracter."

Many of the important early instruments connected with the administration of the Government of England in Ireland, extant in the Tower and other old London record-repositories, were published—but with little care—by Prynn, Rymer, and others, in the seventeenth and eighteenth centuries, as illustrating various points of British history and constitutional law. Sir Thomas Hardy, we believe, formerly entertained the project of editing a complete collection of this class, under the title of "Acta Regia Hibernica." He subsequently gave to the world a large body of very important documents, connected with Ireland, in his edition of the Rolls of John and Henry III. These works, as edited by him, marked the commencement of a new epoch in the archivist literature of Great Britain. They exhibited for the first time in England minute palæographic precision combined with accurate knowledge of the historical, literary, legal, and social affairs of the periods to which the records belonged. Each entry was reproduced in type exactly as it stood on the Roll; and those who have had occasion to compare portions of the originals with the printed work can bear testimony to the remarkable accuracy of the latter in every minute detail. In addition to these publications, several calendars of ancient documents, containing many writings connected with Ireland, have been produced, both in print and manuscript, by experienced archivists on the staff of the Public Record Office, London.

It would have been of incalculable value to those who consult the work before us to be able to refer at once to the numerous original documents, already in print, which it epitomises. We have, however, to regret that in it Rule 10 of the Master of the Rolls has been overlooked. That important rule, forming portion of his Honour's "Instructions to Editors of Calendars," specifically requires that where documents have been printed, the calendarers should in every case give a reference to the publication in which they appeared. This very serious omission in the present calendar might perhaps be remedied by giving a table, referring the reader to where he may find printed in full, in the original languages, the documents of which abstracts in English are given in the volume before us. The appearance of the present index-calendar should greatly aid the public in urging on Government the importance of resuming the publication of the Patent, Charter, and Close Rolls of England from the period at which Sir T. D. Hardy's volumes terminate.

Of that grand series of yet unpublished Rolls England has reason to be proud. On it are registered documents illustrating her own affairs, as well as her transactions with the Irish and every other people with whom of old she had relations. It is no exaggeration to say that such a work, executed in a style similar to that of Sir T. D. Hardy's edition of the Rolls of John and Henry III., would be as noble an historic monument as any nation could exhibit.

In Sir T. D. Hardy's volumes, to which we have referred as palæographic texts, the local and personal names were with great propriety printed exactly as they stood in the records. The scribes who originally made the entries, being unacquainted with the Gaelic language, usually wrote them in semi-phonetical forms, frequently presenting strange

\* Written for the IRISH BUILDER.

but interesting orthographical combinations. These, at the present day, cause many difficulties even to investigators acquainted with many of the changes which, during the course of centuries, have taken place in personal and local nomenclature in Ireland. On this important head the editor of the present calendar, much to our disappointment, writes as follows:—

"In regard to topographical names, the editor does not deem it a necessary part of his duty to identify all the Irish names of places that occur. He is not acquainted with Irish, and the various and all cussing exigencies of this work have prevented him from devoting much time to this point" (Preface, p. 9).

The reader is thus almost hopelessly left to identify the modern names and positions of many of the places referred to under ancient peculiar designations, as in the following instance, at page 377:—

"Deed of release in fee by Christiana de Mariseis to King Edward I. of all her right and claim in the manors of Bere, Ballmahinan, Cnoclafutyn, Caacro, Done, Nachbrok, Killeymen, Kilmathel, Baliculan, Little Tattom, Brun, and Ballymolys in Ireland, which she had held of the K. in capite."

Not more satisfactory to the reader are the modes in which the names of native Irish are given in these epitomes, as in the following instances, which we reproduce verbatim from the calendar:—

"The mayor and commonalty of Carrickfergus in Ulster to the K. Od' O'Neill, king of Kinel Owen, and Connory O'Kathran, king of Kenseah, had lately raised war in Ulster" (p. 165).

"N[ ] O'Nel, king of Yneheun, G[ ] Mae Dumlene, king of the Irish of Ulster, M[ ] O'Flin, king of Cucuria, E[ ] O'Hanlon, king of Ergallia, D[ ] Mae Gilmori, chief of Anderken, D[ ] Mae Kartan, king of O'Nelich, to the K." (p. 166).

Such unintelligible entries are not confined to Gaelic names, as may be seen from the following:—

"The people of Asten', Papunen', Alban', and Taurium have taken prisoner Earl Thomas de Sabaud" (p. 79).

"Letters of protection to endure till Easter ensuing for Henry son of the King of Almala" (p. 137).

Similar obscurities abound with respect to the names of important Anglo-Norman personages. Thus, we find here the name, "Sir Theobald, the cupbearer," without any further explanation. The name thus given in the calendar is in the original "Theobaldus Pincerna"—the Latin equivalent of Tybaud Le Botiller, or Theobald Butler, head of the important Anglo-Norman house of Ormonde, one of whose old Latin panegyrist observed:—

"—pincernam idiomate namque Denotat Angligenum Butler."

One of the most interesting entries on the rolls epitomised in the present calendar is that of the year 1283, connected with the descendants in Ireland of the Norse settlers, usually styled in old documents Oustmanni, Ostmanni, or Ostmen—sometimes written *Custumanni* by careless scribes who mistook the initial O for C. From these Scandinavians a part of the city of Dublin acquired the name of Ostmantown, which to the present day gives a title to the eldest son of the Earl of Rosse. It has always been regarded as a curious point in British history that the Ostmen in Ireland claimed and obtained from the Crown of England rights and immunities which the same Government did not accord to some of the native Irish. M. Worsaae, in his work compiled for the Danish Government, specially mentioned that there was, entered on a roll, in the Tower of London a document of the year 1283, issued by the English king, Edward I., ordering that the Ostmen in Waterford (*Custumanni*, *Oustumanni*, *Austumanni*) should, pursuant to the ordinance of King Henry II. have, and be judged by, the same laws as the English settled in Ireland. This was considered by M. Worsaae, who printed the document, to indicate that the Ostmen at that time still formed a distinct and separate people. It is to be regretted that so interesting a record, already printed in the north of Europe, should have been entirely misinterpreted in the present calendar. The editor (page 494) twice renders the word "*Custumanni*" by the term "*customary tenants of Waterford*," without any reference whatever to the Ostmen. It may be superfluous to add that such "*customary tenants*" never had any existence either at Waterford or anywhere else in Ireland. The entry on the Patent Roll of Edward I. in London, thus unhappily misconstrued in this calendar, has an important historic bearing in connexion with a record in Ireland of somewhat later date respecting the same Ostmen. Of this document, preserved at Dublin, a photoinographic reproduction has been executed for the series of *Facsimiles of the National Manuscripts of Ireland*, now in process of publication.

There are many other matters in the calendar before us to which recension would be advantageous, but at present we shall not dwell on them. We are more inclined to encourage the compiler in his heavy task than to enlarge upon defects. He has displayed commendable and anxious industry in his compilation. It is but just to add that he has

undertaken a work more than usually onerous. The accurate and precise elucidation of documents so replete with obscurities and archaisms would demand, not only very special intelligence, but also archivistic and literary acquirements of no ordinary class.

#### MORTALITY IN DUBLIN.

OUR contemporary the *Medical Press* devotes three columns of its current issue to a digest of the opinions and reports of the would-be sanitary authorities of the city. It prints the report of the Sanitary Association and Dr. Mapother's rejoinder, and continues:—"The criticism on this report, which will at once occur to the reader, is that it affords no answer at all to the statement of the Sanitary Association, and not only suggests no remedy for the melancholy loss of life in the city, but seems to pool-pool any effort to mitigate evil. This is a policy quite characteristic of the Public Health Committee, who have always been wont to answer all remonstrances by saying that their sanitary organization was as nearly perfect as possible, and quite above criticism, and that if the dirty people of Dublin would die by hundreds the Committee could not really be expected to help them—that, after all, such people had no business to die of little ailments like pneumonia and bronchitis, and, as for fevers and such other diseases, Dublin was not much worse off than other dirty places; and, to make a long story short, they wish that associations and other fussy people would not bother them with any of their nasty statistics or uncomfortable reminders." The entire paper is well worthy of perusal.

#### THE IRISH BUILDER.

##### NOTICE.

A title-page and index to Vol. XIX. of the IRISH BUILDER are now ready. Non-subscribers can procure copies at the publishing office on payment of Twopenny.

The volume for 1877, neatly bound (price 9s. 6d.) will be ready on the 10th inst.

Back numbers can still be had, to perfect sets, at Fourpence each.

The price of single numbers will, in future, be Fourpence.

#### BOOKS RECEIVED.

*Science for All* is the title of a new work to be issued in parts by Messrs. Cassell, Petter, and Galpin. The name of the firm is a sufficient guarantee that this, their latest venture in the effort to educate the masses, will not be less successful than the many others which have preceded it. We are constrained to print a few words from the introduction:—"We shall pluck the leaves from the hedge-rows, or prick them from under the trees, and then and there read a lesson to the reader. We shall break the chalk from the sea cliff and the limestone from the quarry, or with the coal in the fire as our text, try, with the aid of those whose life has been devoted to sifting the grain from the chaff, to explain what these teach us. We shall not suppose that the reader knows anything of science, and therefore will adopt the same method in explaining what is seen as the reader would do if he or she tried to find out all about it unaided." In turning over the pages of the part before us we note a clever paper entitled "*A Piece of Limestone*." It is cleverly illustrated.

*The Archer* is the extra Christmas part of our old friend the *Quiver*. Capital value is given for sixpence. Messrs. Cassell and Co., publishers.

The editor of *Once a Week* sends his New Year's Part. In fifty-six pages of closely printed matter we have narrated the whole story of "*Jack Log*." The chapter headings are put in very attractive phraseology, and will lead on to a desire to ascertain all that Jack said and did. In future parts also will be given complete stories.

*The Irish Temperance League Journal*, published monthly, is the oldest existing temperance periodical in the kingdom. It has entered on its seventeenth year with present number. As the organ of the Temperance Association, its pages are of course specially devoted to the eradication of the terrible evils connected with intemperance. We wish our northern contemporary the success it deserves in its new and enlarged shape.

#### THE STATUE OF THE LATE DR. GRAVES.

SINCE our last issue the fine statue of the late Dr. Robert J. Graves, by Mr. Bruce Joy, which has been placed in the principal hall of the King and Queen's College of Physicians, was unveiled by the Lord Lieutenant. The cost of the statue was defrayed by the subscriptions of a large number of members of the medical profession and others. The artist, although resident in London, is a native of this country, and was a pupil of our late distinguished sculptor, John Henry Foley. He was present at the ceremonial, and at the conclusion of the proceedings was presented to the Lord Lieutenant by Mr. Thomas Jones, the President of the Royal Hibernian Academy. The assemblage, which included a number of ladies, was a large and representative one, and all the addresses were appropriate and appreciative.

#### THE PROPOSED OVERHEAD RAILWAY AT LIVERPOOL.

THE Liverpool borough engineer, Mr. George F. Deacon, has drawn up a report upon the proposal of the Mersey Docks and Harbour Board to build a railway, supported on pillars, on the roadway along the line of docks. The engineer is of opinion that the proposed height of the railway—16 ft. 6 in.—is insufficient for so important a line of traffic; and at the next meeting of the Town Council it will probably be decided to oppose the Docks Board bill in Parliament, so as to obtain the insertion of certain protective clauses.

#### MUNICIPAL FINANCES.

MR. John M'Evoy, in a recent letter, writes thus:—

The Lord Mayor is reported to have made a number of statements, with which I propose to deal in the order in which they occur in his speech.

(1.) The debts of the Old Corporation on the Reformed coming into office were £343,836 on city debentures, and £75,000 on pipe-water debentures. I would ask his lordship to read the Report of a Special Committee of his own Corporation, appointed on the 6th November, 1863, in which, at p. 29, he will find:—

Debts due by the Corporation of Dublin when the Act 3 and 4 Vic. cap. 108, came into operation in 1841:

|   |          |
|---|----------|
| City debentures, paying 4 and 6 per cent. | £220,523 |
| Pipe-water debentures, paying 5 and 6 do. | 72,200   |
|   | £292,723 |

also a tontine debt of £52,554, paying annually £2,627 14s. This tontine was created in 1775, and its working from 1841 down to the date of the report, in 1863, is given at p. 19, whereas it appears the lives being very old they dropped off rapidly year by year till the annual charge stood in 1862 at £679. The tontine altogether expired with the last life in 1865. To make out his £343,000 the Lord Mayor appears to have added debenture, tontine, and pipe-water debts together, and then started another, an imaginary pipe-water debt of £75,000. What the Reformed have paid off is their small share of the tontine, about £28,000; £13,200, the proceeds of the sale of city property to the Hibernian Bank, the city rental being diminished by a corresponding amount annually; and £10,500 paid off in instalments of £500 each, in all £51,700, really £38,500 only, instead of the £150,000 the Lord Mayor takes credit for. But even here it must be observed the rental of the city estates, £15,016 in 1841, had been continually increasing by the falling in of leases. The increased rental in the thirty-five years represents treble the amount of debts paid off.

(2.) The Corporation has paid the debts of the Wide Streets Commissioners, and paid for paving, lighting, and sewerage a considerable sum, which he

does not give. If the Lord Mayor would read the Dublin Improvement Act, 1849, he would see that special rating powers were granted by that act for those purposes and no other. If the Reformed Corporation had collected those rates, and applied them otherwise, they would have been restrained by a court of law. The Corporation, through the Collector-General, collected large sums, and spent them, that is all.

(3) On the Waterworks the Corporation had borrowed £544,000, and now owed only £510,000. The financial history of the Vartry, as given in Mr. Neville's book of 1869, and a special report of the Waterworks Committee of 1874, is as follows:—The original estimate was, for the works, £300,000; for piping the extra municipal districts, £75,000; and for connecting the old system with these, £24,000; in all, £399,000. This proving insufficient, in 1866 powers to borrow £110,000 more were acquired, making the total authorised £509,000. In 1874 the total then due was £485,755. In 1875, the Corporation, wanting more, obtained power to obtain an additional £50,000, making a total authorised of £559,000, of which the Lord Mayor says £510,000 has been borrowed, and is now due. It may be that the total amount borrowed from Government and others is £544,000, and that £34,000 of that has been repaid; but how? By re-borrowing the money from some one else. The Lord Mayor cannot name a year when the city accounts, or any other Corporation paper, showed an indebtedness to the extent of £544,000, now reduced, as he says, to £510,000. On the contrary, every year's accounts, from 1861 down to the present year, shows a gradual increase, step by step, in the total amount of the debt for the Vartry waterworks. The last financial operation of the Corporation is sufficiently significant. To pay the current rate on the works and mains they have to borrow money!

(4) Government were lending money for sanitary improvement at the rate of 2½, 3, and 3½ per cent. elsewhere, but not in Dublin. If the Lord Mayor would read the Public Health Acts of England and Ireland passed since the present Government came into office, he would find the law is the same for the two countries as to lending to local authorities for sanitary improvements—namely, the loan is to be at 3½ per cent., or such other rate as shall cause no loss to the Exchequer. If the Government be lending at the rates mentioned by the Lord Mayor, they must be acting in contravention of the law, and it would be well we had the name of the place where those loans have been made.

In a second letter Mr. McEvoy returns to this important question, and certainly proves his case by a practical statement and plain figures:—

I was informed by a member of the Corporation that the Lord Mayor's statement that Government lent to English towns at 2½ per cent., was founded upon a paragraph in the *Times* of some day in last August, to the effect that Government had granted the Corporation of Birmingham a loan of £1,000,000 at 2½ per cent., for the large Artisans' Dwellings scheme now being carried into effect in Birmingham. Thinking that even the *Times* might make a mistake, I wrote on Monday evening to the Borough Treasurer of Birmingham, and asked whether the rate was 2½ or 3½ fixed by the Public Health Act. The following is the reply received this morning:—

Corporation of Birmingham, Treasurer's Department,  
23 Union-street, Birmingham, 4th Dec. 1877.  
DEAR SIR,—In reply to your letter of yesterday's date, we have not borrowed any loan from Government under 3½ per cent.  
W. R. HUGHES, Treasurer.

It is almost a pity this loan grievance cannot be sustained. We appear so interesting before Europe as a wronged, plundered, and oppressed people, that matter-of-fact dealing with our affairs is hardly to be commended.

Desiring to shorten my letter of Monday, I did not go as fully into the Vartry loan question as I would desire. At first, after 1861, we had in the city accounts a "Vartry Loan Fund Account," which showed in a clear straightforward way the amount borrowed, expended, and remaining in hand at the end of every year. In 1867 a clause was introduced into a Waterworks "Amendment" Bill, by which the strange course was directed of uniting the loan fund with the current cash or revenue account. Just at the time when, the works having been completed, the loan fund should have been turned into a capital account, the loan account, the rate and revenue accounts were all bundled together, to render it difficult, if not impossible, for anyone outside the Waterworks Committee or its official staff, to say with certainty the amount due at the end of any year on account of the Vartry undertaking. In the accounts of Glasgow, Liverpool, and Manchester, where the Corporations, as in Dublin, act as water companies, there are the usual and

necessary capital, revenue, and loan accounts, and one of the reforms which gentlemen of a reforming tendency in the Dublin Corporation might adopt is to include in the Waterworks "Amendment" Bill of 1878, together with amendments of the acts of 1874, and a number of other years, an amendment of the "amendment" of 1867. I premise this much as necessary to introduce the following:—

In 1867 the Vartry Loan Fund account showed—Debt, £434,000, and expenditure, £388,386.

In 1870 the amalgamated accounts showed—Interest paid on permanent loans amounting to £471,000, and an expenditure on the works, &c., of £452,305.

In 1873, similarly, the permanent loans appeared to be £504,314, and the expenditure £502,957.

In 1876 the permanent loans appeared to amount to £532,000, and the expenditure £522,510.

In order that I may be corrected if wrong, I give as I make out, under the difficulty I mention, the indebtedness in the last published account—that for 1876:—

|  |          |
|--|----------|
| Due to Government out of first loan .. | £356,383 |
| " on new Debentures ..                 | 35,000   |
| " to Hand-in-Hand Insurance Company .. | 30,000   |
| " to Economic do. do. ..               | 30,000   |
| " on Re-issue of mortgages paid off .. | 7,000    |
| " to Bank of Ireland on mortgages ..   | 37,000   |
| " Board of Works New Loan ..           | 34,225   |
| " Messrs. Jameson and Kane ..          | 2,500    |
|  | £532,000 |
| Which, with old pipe-water debt of ..  | 72,200   |
| Gives a total water debt of ..         | £604,203 |

Which appears to go on annually increasing year by year.

Having so often of late years treated of municipal fallacies and shortcomings, we do not care at present to supplement Mr. McEvoy's practical statements by additional facts. Mr. McEvoy's exposition can well afford to stand on its own merits.

#### HOME AND FOREIGN NOTES.

The Burns Committee at Kilmarnock has selected from the competing designs for the statue of the poet that by Mr. W. G. Stevenson, of Edinburgh.

THE FREE OPENING OF LONDONDERRY BRIDGE.—On this day (the 1st) the opening of the upper roadway of the Londonderry bridge to the public, free of toll, takes place with much ceremonial.

A monument to the memory of Dr. Alexander Murray, a distinguished scholar, formerly Professor of Oriental Languages in the University of Edinburgh, has been erected over his remains in Greyfriars' churchyard.

THE PUBLIC HEALTH COMMITTEE.—At its last meeting this committee had under its consideration a report from the Superintendent Medical Officer on the death-rate of the city, including an analysis of the reports thereon by the Medical Sanitary Officers, and ordered it to be printed. Orders were made to summon 82 persons for sanitary offences. Claims for compensation for destruction of the clothes of smallpox patients were considered and granted. The Public Health Bill now before Parliament, and a bill to amend the existing registration were under the consideration of the committee, as was also a report by the City Engineer on the ventilation of the main sewers of the city.

A "STANDING" PAR.—"THE CORPORATION.—Sub-Committee B of No. 1 Committee met yesterday—Alderman O'Rorke, J.P., in the chair. There were also present—The Right Hon. the Lord Mayor, Aldermen Gregg and Meagher; Councillors Callow, Murphy, Cochrane, and Sir John Barrington, D.L., J.P. Having transacted the business connected with flagging, paving, &c., and also the payment of workmen's wages, the committee rose at 2 o'clock, p.m. Subsequently there was a meeting of the A Sub-Committee, at which the same members attended. Having disposed of the business connected with the scavenging department, the committee rose at 2.45 o'clock, p.m." Well done, faithful representatives of the heavily-taxed ratepayers!

A CONSULTING ENGINEER TO THE BOYNE COMMISSIONERS.—At a recent meeting of the Commissioners a letter was read from a gentleman signing himself David Enright, of 1 St. George's-place, Dublin, who stated that he had great experience in Canada and the adjoining states of America as a practical civil engineer for twenty years, in charge of railway works and river and harbour improvements, applying to be appointed consulting engineer under the new arrangements. In the course of his letter Mr. Enright wrote that "Captain Branigan

is in error, wherein he is reported at last meeting to have said 'that dredges are sent out from the Clyde to Canada.' This really is not so. For the last fifteen years all dredging done within the Dominion of Canada, on the harbours of lakes Ontario and Erie, have been built by contract, the American dredge contractors, who have powerful dredgers invariably taking up the work. Hence if you so desire I shall be most happy to give you every information in my power as to the build of dredges in use, where built, and how the work in general is carried on in America." Mr. Moore—All his great deeds were done in America and not in these kingdoms; I wonder did Mr. Connolly hear of him when he was over? Mr. Connolly—No, I did not. Mr. Moore—Then he must be no good. Mr. Whitworth—This is a matter that can stand over, and if the secretary just acknowledges the receipt of this letter and states that it will be submitted to next meeting, that will do for the present.

FORESTS IN TUNIS.—In no country in the world are the evils caused by the destruction of forests, and the importance of conservancy, more manifest than in Tunis. During Roman occupation this country supported 20,000,000 inhabitants. Now the population of the Tunis Regency is barely one million and a-half. Where now there are treeless and arid plains, covered with sand and stones, incapable of supporting vegetable life, and intersected by water-courses in which no water flows, there were once extensive forests. Only a hundred years ago Bruce makes frequent allusion to forests through which he passed, where not a tree is now to be seen. As soon as the trees are cut down, the mould gets washed by winter rains into the valleys; succeeding rains carry down stones and gravel; sand is swept over all, and a fertile tract is converted into a desert. Colonel Playfair himself distinctly observed layers of alluvion several feet below the surface underlying strata of water-worn stones and barren sand. This was in places where deep cuttings had been made by winter torrents, leaving a section bare. At present the olive is the principal product of Tunis. It thrives almost everywhere, and contents itself with the most brackish water. All along the coast there are fine plantations containing glorious old trees, though there is seldom the least sign of a young one being planted. Forest conservancy is utterly neglected in Tunis. But the progress that has been made by the French Government in Algeria is already very satisfactory. Along the slopes of the Atlas and Annes Mountains there are forests of Aleppo pine up to 3,000 ft. The evergreen oak covers an area estimated at 1,337,829 acres within the Tell of Algeria, while the cork oaks cover 617,206 acres. The region of the Atlas cedar is somewhat higher, from 4,000 to 7,000 ft., where these fine trees occupy 190,000 acres, while the cypress freest the lower and arid portion of the Atlas range. These Algerian forests are now under a careful system of conservancy, and interesting particulars respecting their management will be found in Major Seaton's recent official Report on the forests and alpha resources of Algeria.—*Academy*.

#### TO CORRESPONDENTS.

THE HEALTH OF THE COUNTRY.—The last quarterly return of the Registrar-General supplies some facts worthy of notice concerning the sanitary condition of several of our towns. We have been obliged to postpone a notice. PROVINCIAL ARCHITECT.—Early in the year we may adopt your views on the matter in question. RECEIVED.—H. B.—C.E.—T.C.—A Surveyor.—W. A.—M. D. R. H. A.—S.S., &c.

#### NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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Contents.

|   | Page |
|---|------|
| THE HEALTH OF THE COUNTRY .. .. .   | 17   |
| The late Dr. William Stokes .. .. .   | 18   |
| Artisans' Dwellings, Dublin .. .. .   | 18   |
| New Presbyterian Church, Armagh .. .. .   | 19   |
| The Public Health Bill of 1877, and the Corporation .. .. .                                   | 19   |
| New National Schools, Holywood .. .. .  | 20   |
| The Cork School of Art .. .. .  | 20   |
| The Castle Caldwell Cement Company .. .. .  | 20   |
| Correspondence—A Tramway Scavage System; Royal Institute of the Architects of Ireland .. .. . | 20   |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Fourteenth Part .. .. .  | 21   |
| Adversaria Hibernica—Literary and Technical .. .. .   | 22   |
| Greek and Roman Art—Their Connexion with the Teaching of the Classics.—Lecture IV. .. .. .    | 25   |
| Health of Dublin .. .. .  | 27   |
| Books Received .. .. .  | 27   |
| Bi-Centenary of the <i>Athenaeum</i> .. .. .  | 27   |
| The Rotundo Lying-In Hospital .. .. .   | 27   |
| Notes on the Early History of the Irish Stage .. .. .   | 28   |
| Royal Institute of British Architects .. .. .   | 29   |
| Royal Institute of the Architects of Ireland .. .. .  | 29   |
| Enigma .. .. .  | 29   |
| Kilmacduagh Cathedral .. .. .   | 29   |
| Aghaderg Parish Church, Loughbrickland, Co. Down .. .. .                                      | 29   |
| The Drumcondra, Glasnevin, and Clonliffe Township .. .. .                                     | 30   |
| "A Too Rare Voice" .. .. .  | 30   |
| The Pilsometer .. .. .  | 30   |
| Home and Foreign Notes .. .. .  | 31   |
| To Correspondents .. .. .   | 31   |

THE IRISH BUILDER.

VOL. XX.—No. 434.

THE HEALTH OF THE COUNTRY.

URING from the recent returns of the Registrar-General, much yet remains to be accomplished by local authorities throughout the

four provinces before the sanitary condition of the country can be considered in a satisfactory state, or approaching it. During the summer and autumn months of the late year the district registrars' notes, printed in the Quarterly Returns, reveal several cases of gross neglect, and its results in disease and mortality. We need not go far

from home for illustrations—indeed we might not go outside the city at all, if it were not that we are taking for our text the Registrar-General's Return, which deals with sanitary matters apart from the City of Dublin. There are localities, however, in the County of Dublin that figure conspicuously in the list of neglected spots.

The registrar of the Coolock district lately wrote that the sanitary condition of his district was very bad, owing to the filthy state in which the people kept their houses and back yards. The drainage of the district is, of course, defective, as it always has been, like several other localities in the North Dublin quarters, from the fact that no real drainage exists. The registrar recommends the prosecution of some of the owners, as he thinks there is no use in advising landlords. Prosecution is very advisable in several instances; but the unfortunate poor need to be assisted first by the local authorities. Where no proper drainage exists, the surroundings of the houses of the poor must be both unhealthy and filthy.

The Holmpatrick district of the Balrothery Union exhibits the wells of the town in a very bad condition, the refuse water going

back again to its source. The old pump system here and in other places is made to do duty, and of course sewage pollution or the percolation of other poisonous matter is always possible.

The Swords district is reported free of disease, and to the scarcity of the mushroom crop the registrar attributes the absence of diarrhoea and retching previously so prevalent. According to the district registrar, the poor were not in the habit of paying proper attention to the cleansing and cooking of the mushrooms. The mushroom incident, if true, is, on the whole, a singular statement. The town is reported to be advancing to a good sanitary condition, and the labouring classes benefited by increased wages. Some cases of cholera occurred in the Duleek district, but the health of the locality in general is pronounced good. The Termonfeckin district is somewhat improved, but dung-heaps are still allowed to accumulate.

The sanitary condition of Carlingford is improving, and "the pumps, three in number, are now working well, and are of much use," quoth the registrar. The deaths here exhibited 10 persons in the quarter over 60 years—one of these 105, another 60, and a third 30. Dundalk, on the whole, is reported healthy, but the mortality from consumption is said to be great.

Kells, although it is not suffering under an epidemic, still its sanitary condition, as of old, is reported unsatisfactory, the water supply being very bad.

Scarlatina on the Curragh side of the Newbridge district was very prevalent during a portion of the late year.

In the Blackrock and Stillorgan districts, and in Bray, Delgany, and other contiguous places, there was a large number of cases of measles during the late year.

In Roscommon, procrastination is the order of the day, the sanitary authority still neglecting to do the necessary works. The drainage in some streets is reported to be in a shocking state. In Roosky and Strokestown the sanitary condition of the neighbourhood is reported pretty good. Among the deaths was a farmer's widow, at the advanced age of 101 years.

In Abbeylisle measles were for some time prevalent. One death was reported in this town of a man aged 105 years. He boasted of having encountered the Royal troops at Castlecomer in the Rebellion of 1798, when he received a scalp wound. "He retained his faculties to the last."

In several towns of the North Midland and South Midland divisions, measles, whooping cough, and other zymotic diseases were prevalent. In the Cappaduff district, Ballinrobe, the epidemic of scarlet fever was widespread, and it is not to be wondered at when overcrowding and bad ventilation are reported.

In the Ballyvaughan district whooping cough in its severest form prevailed. Among the deaths here was a woman who reached the age of 106. The district registrar says: "She was up, and talked rationally the day previous to her death. She married at 35; her first born lives at Lisdoon, and is in his 70th year. These facts are borne out by others, and leaves no doubt of her having attained the age recorded."

In the Portumna Union district, No. 1, cases of typhus and typhoid fever occurred. Need we marvel when we read of dirty houses, dirty yards, and choked sewers? The

greater part of the town is reported to be without privies; there is no good water, the most populous part of the town receiving its supply from wells situated in the dirty yards.

In Tulla, Kilkishen district, the sanitary condition is reported as very imperfect. The district registrar writes:—"The state of the National Schools at Kilkishen is simply barbarous. Four persons have been attacked with typhus fever." Several cases of scarlatina occurred in this district also during the late year. The sanitary authority here is not inclined to move, hoping, perhaps, that things will mend, on the "Paddy-go-easy" system. It is pleasing to read the report of the district registrar of the Tulla Union district in contrast with the state of matters in Kilkishen. In the small town of Tulla two pumps have been provided, and sewers made at the cost of £175, since the Public Health Act come into operation. The registrar writes:—"The great obstacle to effectual sanitary improvement is the habits of the people themselves, but I think the public are becoming more enlightened. They certainly appreciate the advantage of having pure drinking water, for one of the pumps erected entailed a heavy local burden on the rate-payers. The area of the taxation for the pump referred to was very properly circumscribed to the townland of Tulla, requiring an additional rate of 1s. 7d. in the pound, yet the inhabitants never raised an objection to the cost, which they knew they would have to bear; on the contrary, did their utmost to promote and facilitate this most necessary work." We would like to know the number of the ratepayers in Tulla, for 1s. 7d. is certainly a high rate to be struck for paying for the erection of one pump.

In Middleton, Castlemartyr district, the sanitary state of the place is pronounced good, and sewers are about to be constructed in the village. The death of a woman is recorded at the advanced age of 103. The Middleton No. 2 district is reported to be in a very indifferent state, the sanitary arrangements being equally unsatisfactory.

In the Killeagh district, Youghal, sanitary matters are unsatisfactory, the houses of one part of the village being still without sewers. The back yards are ill kept, containing quantities of manure, house slops, garbage, &c.; the farm yards in the majority of instances are also undrained, and generally in a filthy state. A pump, which was closed for eight or nine years, has been opened on the recommendation of the medical officer, and put into working order by the authority of the dispensary committee. It is clear that a better supply of water is needed for the village.

In Cork, in the Carrignavar district, the people of the Little Island complain of the difficulty of getting good water, and attribute their illness to drinking bad water. The district registrar writes:—"I have reason to know that limestone water in this neighbourhood has been the cause of illness."

In the Molahiffe district, Killarney, measles and whooping cough were rife. The several deaths, the district registrar thinks, did not arise from any virulence, but from neglect and ill treatment. "The peasantry still think the complaints of children are best managed by women and quackery." At Bruce, Kilmallock, a woman died aged 104.

In the Buttevant district, Mallow Union, the registrar writes that "it is almost impossible to persuade some of the poor class that they should remove dung heaps and

stagnant pools from their doors. Fever has been rife at Liscarrol."

In the district of Kilshannig, Mallow, sanitary matters are improving, and the people showing a disposition to do what is right. The death of a man occurred here at the age of 105. There is also, writes the registrar, a man alive here of the same age, "able to walk to Cork (a distance of 17 miles from his house). He planted his own potatoes himself this year."

In the Dungiven district, Limavady, imperfect drainage, bad water supply, proximity of dunghills and piggeries to the dwellings of the petty class of farmers, and sundry other evils, are reported.

In the district of Moira, Lurgan, the sanitary condition is reported fair, but the dwellings of the people are not all in a satisfactory state. Here, many of the better class, we are told, consider it quite sufficient that the dung-heaps and cess-pools be removed, but never think the state of their dwellings is a matter of importance.

In Maghera district, Magherafelt, the place is reported so healthy that it is only a number of the old people who are being carried off. The district registrar furnishes the instance of an old pensioner and his wife, aged respectively 94 and 84, who died on the same day, "the husband being a widower for 15 minutes only."

In the Ederney district, Irvinestown, the registrar writes:—"The sanitary act appears to be pretty well understood here, as a man on being requested by the sanitary sub-officer to remove a pig from his dwelling-house, told him that the doctor must come first, then he must get notice from the guardians, and before that time expired, he thought it might be fit for removal." The registrar thinks there is something wrong here. Well, on the other hand, we are glad to see that Pat is giving the construction of the sanitary act some attention. If his brethren would do the same, no doubt we would soon have an amendment.

In Manorhamilton Union district—which was free from infectious diseases at the date of the return—an old woman died at the age of 112 years. Centenarian women and men appear to be plentiful in Ireland, but the women carry off the prizes. They are not content at reaching their hundredth year, but they must get a tally over from old Father Time.

In the Carney No. 2 district, Sligo, typhus fever broke out for the second time, the infection coming from a distance, the party having visited friends. In the Riverstown district, in Sligo, matters are improving, on account of drainage works, formerly long neglected.

We cannot notice all of what is reported of towns and villages throughout the four provinces, but, from the instances we have cited, it may be seen that there is still much neglect. We were pleased, however, to observe that, in several towns and villages of which returns are made, considerable improvements have taken place within the last two or three years. One of the great drawbacks still to sanitary improvement in Ireland is the wretched state in which a large portion of the inhabitants are housed. The dwellings of the labouring poor in general do not deserve the name of dwellings; they are rather hovels, in which morality is rendered difficult of preservation, and health impossible. The homes of the labouring and small farmer

classes must be improved before personal or public health can be preserved. The duty devolving on the local and sanitary authorities is clear. It comprises the providing of good sewerage, drainage, water supply, and the prompt removal of nuisances of all kinds. Some of the sanitary acts are defective, but, without acting with undue harshness, particularly against the poor, they should be enforced against habitual evil-doers.

A word or two more. While blaming the local authorities, we must candidly say that the central authorities are not free of blame. Both the Irish Local Government Board and the English kindred one exhibit very imperfect machinery and organisation. The law in sanitary matters ought to be plain to these boards, and it is their business to see that the acts are enforced. Neglect or supineness, however, reigns in high as well as low places, and in the capital of Ireland and throughout several towns it is manifest—verily, we might say, *sans* health, *sans* everything.

#### THE LATE DR. WILLIAM STOKES.

SINCE our last issue the death of Dr. William Stokes—a name long connected with medical and archaeological studies in this country—has taken place. His illness was somewhat long and painful, and was not wholly unexpected. The distinguished Irish physician was born in Dublin in 1804, graduated M.D. at the University of Edinburgh 1825, was a regius professor of physic in the University of Dublin, received the honorary degree of LL.D. from the University of Edinburgh, was president of the College of Physicians in Ireland, physician in ordinary to the Queen in Ireland, and last, though not least, filled the office of president of the Royal Irish Academy, of which body he was long years a distinguished member, like others of his name. Dr. Stokes was the author of several medical works of high repute, he had a large private practice in his day, and in this city he inaugurated a system of clinical lectures leading to a great reform in medical instructions. Apart from medical literature Dr. Stokes evidenced considerable archaeological industry, and among his purely national writings was his appreciative and interesting life of our late distinguished antiquary George Petrie, published in 1868. There were few men ever in this country who better deserved honours at the hands of the State; but, though he died without Government recognition, he did not die undistinguished, for his countrymen have paid and will again pay tribute to his great abilities. To private worth, professional talents, and literary tastes, must be added the usual accompaniments of the perfect gentleman in the highest sense of the term, and each and all were traits characteristic of Dr. William Stokes.

#### ARTISANS' DWELLINGS, DUBLIN.

IN their third report the board of directors of the Dublin Artisans' Dwellings Company give a statement of their accounts and the works executed or in progress up till the end of December. The directors say there remained in bank to the credit of your capital account the sum of £547 16s. 4d., and to the credit of your revenue account the sum of £51 2s. 3d. Since your directors' last report, the cottages in Upper Dominick-street have been completed, and are now let; the receipts from them since the 6th October are £73 1s. 6d. The additional buildings in Upper Dominick-street, commenced last

August, are progressing satisfactorily. The buildings in Echlin-street will, it is expected, be ready for occupation before the end of January. The buildings in Upper Buckingham-street are not yet completed. The contractor, however, hopes to have them finished in one month from this date. Contracts have been entered into for the erection, on the front portion of the site, of an additional block of buildings, containing 45 tenements, at a cost of £4,474, and of a shop, at a cost of £699. Plans have been submitted and approved for the conversion of the existing dwelling-house into a number of suitable tenements. The contracts already entered into, exclusive of the cost of Buckingham-street site and of the shop, amount to £21,947, and the number of tenements either completed or in process of construction is 186."

The chairman (Sir Arthur Guinness), in moving the adoption of the report, observed that during the past half-year the directors had been addressing their attention to the finishing the blocks of buildings and completing the contracts which were at present in hands. Twenty-three tenements had been let since the last meeting, and for these tenements there had been 130 applicants—a fact which showed that there were a large number of persons whom the company had not been able to accommodate in the district of the cottages in Upper Dominick-street which had been let. The total number of the cottages which had been contracted to be built was 186. The directors had postponed taking any more ground for the present, as they were looking forward to getting the ground which was to be cleared by the Corporation under the Dublin Artisans' Dwellings Act. In respect to this matter, the directors had not received any definite information, but they understood that the delays were very great, and that it might be two and perhaps three years before the ground was cleared which they were looking forward to getting. They did not at present suggest any new sites, but possibly at the next meeting they might do so. The directors continued to have full confidence in the success of the undertaking, and they hoped that if those contracts which were in hand were completed before the next meeting, they would be able to offer the shareholders something in the way of a dividend.

In answer to a question by Mr. Jonathan Pim as to what would be the total number of tenements offered for letting when the present contracts were finished, the chairman replied that the total number would be 186. The artisan classes for whom such dwellings are intended, or were intended, do not seem to be obtaining any shares in the company, or taking much interest in its progress.

Mr. Allen, while he thought it desirable that the artisan classes should take an interest in the company by joining, was of opinion, on the other hand, that "it was quite natural that the directors should feel hesitation in inducing that class to join a company of that sort; this after all was only the first experiment in Dublin. He would be slow in holding out any inducement until they saw how far the company would be a success."

If Mr. Allen has a great confidence in the success of the company, he could do no harm by giving cause to other people to feel confidence. Artisans should be induced to become shareholders as well as being advised to become purchasers; and no difficulties should be thrown in the way of the artisan classes taking out shares, if they want to do so. We do not look upon the Dublin Artisans' Dwellings Company as a philanthropic movement, nor do we expect that it should be purely one. The commercial principle must be upheld, and to succeed it must be made to pay. We only desire to see that good dwellings shall be erected, healthy and comfortable, and sufficiently large for the wants of artisans and their families. We also desire to see these dwellings let at reasonable rents. We would like to receive and publish an honest statement from any artisan occupier,

giving his own unbiassed opinion of what he thinks of the accommodation provided for him in the dwellings or tenements erected by the company. Any statement we may receive on either side will be fairly put before the public without prejudice.

### NEW PRESBYTERIAN CHURCH, ARMAGH.

On the 4th inst the "memorial-stone" of the new church now in course of erection at Armagh, for the First Presbyterian congregation, was laid by Charles E. Lewis, Esq., M.P. The edifice stands at the junction of Russell-street with the Mall, the principal front overlooking the latter. While following the general features of the English Gothic of the fourteenth century, the plan and leading arrangements have been designed especially to meet the requirements of modern churches where hearing and seeing are of the first importance. The church consists of a nave and two side aisles, making a total width of 55 ft. within the walls. The columns of the aisles are of cast metal, of large dimensions. As an aid to the acoustic properties of the church, boarded ceilings will be introduced throughout. Sittings are provided for 470 persons on the ground floor, and the galleries accommodate 350. These latter are approached at either side by staircases, having separate entrances, but connected with the main vestibule. Owing to the difference in level between the Mall and Russell-street, a basement is formed below the church, which will be utilised as a sexton's dwelling, and for other purposes. The sills of the four main doorways facing the Mall are approached by a spacious flight of steps, giving dignity to the appearance of the church. These doorways are deeply recessed, and have jambs with nookshafts, with moulded caps and bases. The arches above these are acutely pointed and richly moulded, with carving freely introduced. The central doorways are surmounted by canopied and crocketed hoods, which start from angled buttresses, terminating in cusped and floriated finials. The five-light traceried window in main gable is deeply moulded with nookshafts, and arches enriched with ball flowers and other carving. Above this window a traceried opening admits air into the upper part of roof. A crocketed terminal surmounts the gable at a height of 70 ft. The gable of the aisle adjacent to this has a double light window filled with tracery, and also terminates in a finial. Octagonal turrets are placed at each angle of the building, with the exception of that at the junction of Russell-street and the Mall, where a massive pinnaled tower rises to a height of 100 ft. to the belfry. From this stage rises the spire, with tiers of lucarnes on each face, finishing at a height of 180 ft. in a lofty weather vane. The side elevations of the church have two tiers of windows between holdly projecting buttresses, rising above eave cornice with cusped and canopied spirelets. The lower windows are coupled with trefoiled heads and pointed labels, while the upper are lofty, and filled with tracery of elaborate character. Two of these latter are placed in the back of church. An additional entrance is provided from Russell-street of similar character to the main doorways, but on a level with the street. The exterior walls are built of shoddies of Armagh limestone, with dressings of Dungannon sandstone. The windows throughout the church are filled with various tints of cathedral glass in lead quarries. The pews, and most of the internal joinery, are of pitch pine. The entrance doors are of Riga oak, in small panels. The platform and choir's seat will be arcaded with shafts of walnut and caps and bases of lime tree. Behind these rises a lofty pointed arch, in which are placed three richly-carved stalls with gabled canopies. At the rear of the church are—a session-room, minister's-room, and ladies'-room, with lavatories attached. It is proposed to heat the church by a hot-water apparatus placed in the basement, and

the lighting will be by coronæ and standards, designed in accordance with the style. Messrs. J. and J. Guiler, Belfast, are the contractors for the work; and Mr. John Rhind is the clerk of works. The architects from whose designs and under whose superintendence the buildings are being erected, are Messrs. Young and Mackenzie, Belfast. The cost when completed will be about £10,000.

### THE PUBLIC HEALTH BILL OF 1877, AND THE CORPORATION.

A DEPUTATION of the Public Health Committee of the Corporation waited on the Chief Secretary during the late week in reference to the Public Health Bill of last year, then withdrawn, but which it is intended to re-introduce early next session. The following portion of a report drawn up on the subject of the bill by the committee, and previously forwarded to Sir Michael Hicks Beach, will sufficiently explain the objects of the deputation, and the amendments which the Public Health Committee desire to see carried out before the bill is passed:—

This bill is in many respects a valuable one, and, if passed, will undoubtedly effect many much-needed improvements. Your committee do not propose to go into an analysis of its provisions, or to refer at all to the various beneficial changes in the law which it contains. They confine themselves to the amendments which, in their opinion, are still required to make the bill really satisfactory. In the opinion of your committee there are two cardinal defects in the present laws relating to public health, both of which this bill proposes to perpetuate. Firstly—having two sanitary authorities exercising power in the one urban district; and, secondly, having the money required for public health purposes raised by means of a borough rate, in aid of the borough fund, instead of by a distinct sanitary rate. Both these defects very injuriously affect the administration of the Public Health Acts in Dublin, and will do so to a proportionately greater degree according as the duties of sanitary authorities are increased. In Dublin, under the present system, and under the new system should it become law, the dispensary medical officers are *ex-officio* sanitary officers. There are fifteen of these appointed and paid by one authority (the boards of guardians of the two unions), and who are yet the officers, or supposed to be the officers, of another authority—the Corporation. Of course this divided jurisdiction does not and cannot work smoothly. It is self-evident that there should be a single authority, and that that authority should appoint and should fix the salary of its own officers. The number of sanitary medical officers in Dublin is uselessly large; their pay is insufficient to stimulate them to really active exertion; and, in fact, the whole system is clumsy and unworkable in the extreme. The bill provides that in certain special events—dangerous outbreaks of epidemic or endemic disease—special arrangements are to be made, and the carrying out of these is to be entrusted, not to the ordinary sanitary authority, the Corporation, but to the boards of guardians. Thus at the very time when most energy and experience is required the whole system becomes dislocated, and the administration of sanitary measures of the most vital importance is entrusted to bodies having no experience of the duties they are suddenly called upon to perform. This provision evidently requires change. Your committee would again strongly urge that at least in such large cities as Dublin, Cork and Belfast, the entire administration of the laws relating to public health should be entrusted, under all circumstances to the corporations, who are the constituted sanitary authorities, subject to the supervision of the Local Government Board; and that they should, under the like sanction, have the appointment and the fixing of the salaries of their own sanitary officers, and should be responsible for their own sanitary organisation. Until this is done, there can be no real harmony of action or real responsibility. It will be lamentable if, in a bill intended to consolidate and settle for a considerable time Irish sanitary legislation, this original defect is perpetuated. The second serious defect which your committee desires to point out is the provision that the money required for the administration of the Sanitary Acts should be provided out of the borough fund or borough rate. The present acts and the new bill remove all limit to taxation for sanitary purposes, so that under them the Corporation, if it thought fit, might levy a borough rate of twenty shillings in the pound for sanitary purposes. Therefore the present complex and cum-

bersome machinery provides no safeguard whatever for the public against heavy taxation. But the levy of a borough rate is always difficult and unpopular, and particularly so in Dublin. Imposing sanitary rates and the rate for the Artisans' Dwellings Act, under the guise of a borough rate, instead of levying them as distinct rates for specific purposes, causes much odium to attach to them, and increases greatly the difficulties of bringing sanitary laws into effective operation. In a matter which depends so much upon public support and sympathy, this is no unimportant defect, and your committee are distinctly of opinion that nothing will militate so much against the really effective working of sanitary legislation in Dublin as compelling necessary taxation for the purpose to be raised in the shape of a borough rate; and, indeed, owing to this defect, it is not impossible that the action of the Corporation, as sanitary authority, may be wholly paralysed. The Corporation recently found it necessary to vote a borough rate for sanitary purposes, and the most energetic efforts are now being made to defeat that proposal. Should they succeed, your committee will be without funds for the current year, and so will the Artisans' Dwellings Committee. An effort of this kind may be expected every time a borough rate is sought to be imposed. Thus the moral effect which would become wholly beneficial if a distinct rate for sanitary purposes were levied, so that the public would know exactly what they were paying for, and what value they were getting for it, becomes, owing to the unpopularity of a borough rate, wholly injurious and antagonistic to sanitary improvement. Your committee reiterate, most emphatically, their opinion that these vital defects must be remedied, as can easily be done, before the Sanitary Acts ever can be effectually carried out in Dublin.

Some further amendments of a minor character were also suggested in the course of the report. The chairman of the Public Health Committee and other members of the deputation, in the course of their addresses, touched upon the question of building irregularities, new streets and sewers, house drains, sewer ventilation, removal of nuisances, and sundry other matters, and the defects of present sanitary acts, and also of the intended bill. In respect to the powers of the police in abating street nuisances, the Chief Secretary observed:—"I think the police have full legal powers in the matter. I have made inquiry into it, and from what I have seen with my own eyes I cannot say that I am satisfied. These nuisances do exist to a degree that ought to be put down if it be possible they can be put down. I find it commonly happens that householders with no proper accommodation to dispose of these nuisances wait until the policeman's back is turned, and deposit what they wish from their house in front of their neighbours' door. Of course the policeman with his hack turned is unable to detect who did it, or who should be summoned. I have given directions that certain parts of the city where these nuisances are more extensive than in other portions shall be more carefully watched, with the view to make examples, so as that the people will be more careful in future, and I need not say that the watch will be carried out not only by police in uniform, but also in coloured clothes."

After listening to all the deputation had to say in reference to the defects of the Public Health Bill, and in support of the amendments proposed by the Public Health Committee, the Chief Secretary finally replied:—"That during the last session, owing to its being so near the close, he was obliged to withdraw the Public Health Bill after it had been carefully considered by the Select Committee. He did so with the understanding, which he thought was agreed to by all parties, that the bill should be re-introduced early the next session precisely as it left the committee—that it should be allowed to reach, without any discussion or opposition, the same stage in the proceedings of the House which it had occupied during the last session, and then that any further amendments that should be thought necessary should be discussed. Therefore he felt himself precluded in introducing the bill in any stage different to that in which it emerged from the Select Committee; but of course between the introduction of the bill in the

first two or three days of the session and the date when they proceeded to discuss it, there would be ample time to consider all these things, and then pass the bill rapidly through the House."

A distinct and special Building Act for Dublin would, as we have for years pointed out, have put an end to several of the evils complained of. We also pointed out several times, and quoted the acts in corroboration, that the Corporation and the police both had powers to abate certain nuisances and public obstructions; but, for reasons that are obvious to Dublin citizens, both the Corporation officials and the police neglected to enforce the provisions of the acts. As to conflicting sanitary authorities, we certainly desire to see one complete and exclusive system efficiently worked in the city of Dublin.

#### NEW NATIONAL SCHOOLS, HOLYWOOD.

SOME time ago a view of the then proposed building was given with this journal, showing a two-storey building, the upper portion to be used as a lecture-hall. When, however, the tenders were received, the cost of its erection was found to be so great that it had to be abandoned, and a one-storey building erected instead.

There is a large girls' school with infants' school off same, and a commodious boys' school, with a class room connected, and apartments are provided for caretaker. Proper arrangements are made for ventilation, and each school has a large play-ground.

The walls are built with Scrabo stone, having cut stone dressings. The windows will be filled with Gothic quarries fixed in lead. The roof is half open, and the fittings are of pitch pine stained and varnished.

The works are almost completed, and have been executed in a satisfactory manner by the contractor, Mr. Nimick, of Holywood, under the superintendence of the architect, Mr. William Batt, jun., of Belfast.

#### THE CORK SCHOOL OF ART.

WE are always pleased to record the progress made by the pupils at this school, as testified by the reports of the head master, Mr. Brennan, and borne out by the several speakers at the annual gatherings for the distribution of prizes to the successful pupils. At that recently held, under the presidency of the Mayor, Mr. Murphy, M.P., delivered an address on the subject of the enlargement of the present School of Art, and the establishment of a School of Music; while Professor Armstrong read a paper "On the Progress of Art from the Earliest Ages." Did our space permit, we would willingly print *in extenso* the valuable report read by Mr. Brennan. From it we learn that the number attending the school for the year has been 249, being an increase of 23 over previous year. Nine prizes were obtained at South Kensington, and 24 students passed the examinations of the second grade. In the science examinations 12 passed and 4 obtained Queen's prizes. Mr. Matthew Mullins has again distinguished himself in the Society of Arts examinations in Technology; he has this year obtained the highest prize it is in their power to bestow, namely, a first class in Honors, the certificate from the Society of Arts, together with the silver medal, certificate, and £5 from the Coachmakers' Company of London, thus beating every candidate in the United Kingdom; having now obtained the highest prize he must be content to wear his laurels.

Mr. Murphy, M.P., moved the adoption of the report. Art in Cork (he said) and the love of and talent for art was running waste, because it wanted some guiding spirit, some space, some material support whereby art might be brought into proper cultivation. Even under the difficulties they had to con-

tend with, he thought he was not wrong in stating that the city of Cork would compare favourably with any of the large towns of England. . . . If they helped themselves by erecting a proper building for art purposes, he could state that the authorities at South Kensington would give them a handsome donation, as well as contributions of works of art to fill their gallery.

After entering into particulars as to the means of raising £5,000 for the erection of a new building, Mr. Murphy said:—He would make a long story short by telling them that he, with his friend Mr. Goulding, had communicated with her Majesty's Government. They saw his Grace the Duke of Marlborough, and communicated with the Chief Secretary for Ireland and the Attorney-General. An Act had been passed last session, and which had received the Royal assent, by which they would be enabled to raise the sum of money required. He had got a promise from the Board of Works of their willingness to advance such a sum. They intended to go to the Corporation and ask them to advance the necessary sum on the security of a halfpenny rate towards the payment of professors of music, and that, together with students' fees, would place them in a fair position. Before long they intended going to the Corporation and asking them to raise £2,500, they would get £1,000 from South Kensington, and he would be very much mistaken indeed if the high-minded and influential citizens of Cork did not assist them largely.

Professor Armstrong then came forward and read his paper, after which the Mayor handed the prizes, and the proceedings terminated.

#### THE CASTLE CALDWELL CEMENT COMPANY.

ON another page will be found the prospectus of a company which has been started under most favourable circumstances for carrying on the works already established at Castle Caldwell. The capital is £10,000, in 2,000 shares of £5 each. An opportunity is now afforded for the safe investment of capital in the production of a material for which there is a daily-increasing demand. It will be a matter of surprise indeed to us, if the share list is not speedily filled up, and include a large number of the builders of Ireland, who should be proud of having a chance of fostering an Irish industry like this.

The prospectus states that "there is at present no manufactory of 'Portland' cement in Ireland, and the carriage on English cement makes it very expensive." The cement produced at Castle Caldwell is, we believe, of good quality, and the supply of lime-stone and cement-stone is said to be almost inexhaustible. The works are situate contiguous to the northern shore of Lough Erne, and have the advantage of a railway close by, with sidings at either extremity.

In the engineer's report we are furnished with full particulars as to the buildings of the company, and the plant provided for carrying on the various branches of its business. He tells us that he has rarely seen so many natural advantages combined in one district for the manufacture of lime, cement, and bricks. Mr. Gilbert R. Redgrave (the company's engineer) occupies an important position in connection with the forthcoming Paris Exhibition. We may mention that the company manufacture bricks, drain-pipes, roofing and flooring tiles, &c.

In a paper read some months since before the Royal Dublin Society, Dr. Cameron, the City Analyst, &c., made some observations as to the suitability of the flooring tiles made at Castle Caldwell for the prevention of ground dampness, an evil of which architects and builders have sufficient examples. He recommends that the surface of the ground enclosed within the walls of a house should be entirely covered with these tiles, the surface being first properly prepared; by this plan a house would be absolutely impervious to foul air from the soil.

We are obliged to conclude for the present.

In doing so, we will take an extract from "Industry in Ireland,"\* a work published fifteen years ago. The author says at page 9:—

"Capital is seldom wanting where there is a fair prospect of good interest and ample security. In this case [the erection of cotton mill-] the security would be unquestionable, and a fair rate of interest may be easily paid. We believe if people but begin to consider the subject of Ireland's water-powers, that hundreds of thousands sterling, now latent, would soon be brought into profitable use. It is a very remarkable fact, and one altogether apposite, that joint stock companies, even since the Limited Liabilities Act came into operation, do not grow in Ireland as might have been expected. One would have supposed that the undeveloped capabilities of the country would have led to the formation of many such companies; but it is not so. This may be accounted for by the prevalence of that notion which led the Irish people, in particular, to look to others to do for them what they ought to have done themselves. Perhaps, more frequently, the reason is that those who are the best fitted to estimate the value of the country's resources are, of all others, the most ignorant as to their existence."

The affairs of the company will be managed solely in this country, and Mr. J. A. O'Sullivan, 15 Lower Sackville-street, will be happy to afford full information.

#### CORRESPONDENCE.

##### A TRAMWAY SCAVENGE SYSTEM.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The dirty state of the streets of Dublin has often been alluded to in severe terms in your columns, but still I fail to discern any improvement on the part of the municipal authorities. Three years since or upwards you suggested a system of street cleansing by which the present tramways could be utilised in the small hours of the morning for the removal of the city scavenge, &c., from depôts in different parts of the city to shoots or convenient places outside. The system was a very feasible one, for by the provision of depôts, with sidings thereto, and the employment of tram-wagons or lorries, the whole of the rubbish could be expeditiously removed at night time or early in the morning. The present slow and expensive system of cartage would be superseded by such a plan as that proposed, and the public health would certainly be improved, as there would be no necessity for allowing mountains of feculent rubbish to accumulate in the city. I understand that the Corporation had at the time an intention of adopting the scheme proposed, and that some steps were taken to carry it into effect. The system alluded to is, I hear, being carried out in some towns in England. I hope you will again urge the matter upon the attention of the municipal authorities, for the present condition of many of our Dublin streets, north and south of the Liffey, is simply disgraceful.

AN OLD CITIZEN.

##### THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Can you inform me in your next issue what is the number of the members of the Institute,—the paying and actual members? how many meetings did the body hold during the late year? the titles of the papers read (if any)? and in a general way what is the "Royal Institute of the Architects of Ireland" doing? Surely it cannot be accounted impertinent or inquisitive on my part to put these queries? Possibly you may not be in a position to afford a satisfactory reply to my question. I trust, however, that the hon. secretary of the Institute or some other member will deign to afford some information publicly to architects outside the capital as to what is being done by the representative body in Dublin.

A PROVINCIAL ARCHITECT.

Cork, January 12th, 1878.

\* "Industry in Ireland. A Treatise on the Agricultural Powers, Manufacturing Capabilities, and Commercial Advantages of Ireland." By William Glenny Crory.

NOTES ON THE RISE AND PROGRESS  
OF PRINTING AND PUBLISHING IN  
IRELAND.

## FOURTEENTH PART.

DURING the last twenty years of the eighteenth century, several arts and trades more or less kindred to and dependent upon printing and publishing, showed an increased activity. Several engravers, copperplate printers, seal cutters, die sinkers, letter founders, &c., and last, though not the least important, paper makers carried on their respective arts, and some of them with considerable success. Mere stationers were many, and, of course, these and the map and print sellers who did a good business, were large importers of the wares they sold. Native paper manufacturers however received for a time a steady encouragement throughout the era of the Irish Parliament, and Cook-street locality appears to have been the head quarters of this trade. Printing-ink would appear to have been mostly an imported article, for we find only one printing-ink manufacturer's name in the Dublin Directory in the period alluded to, Edward Stacey, 31 Meeklenburgh-street. In 1786 the following paper makers had warehouses in the city:—Michael M'Donnell, 19 Cook-street; John M'Donnell, 31 Cook-street; and Robert Keeling, 2 Angelsea-street. In 1796 the paper makers were; Daniel Sullivan, 3 Cook-street; Jeremiah Sullivan, 14 Lower Ormond-quay; Hurst and Green, 31 Cook-street; Thomas Freeman, 25 Cook-street; Andrew Fawcett, 32 Abbey-street; Mathew M'Donnell, 40 Cook-street; Michael M'Donnell, 19 Cook-street; Darby M'Donnell, 20 Cook-street; Jackson and Co., 31 Essex-street; John Dowling, 4 Essex-street. There were in the above-mentioned two periods several parchment makers on the south side of the Liffey. The following names and trades kindred to our subject may be given as evidences of what we have advanced, but they are nowise exhaustive of the branches touched. In the twenty years preceding the Union the following representatives were to be found:—William Mossop, letter founder and die sinker, 13 Essex-quay; Stephen Parker, letter founder, 97 Grafton-street; Mathew Parker, die sinker and letter founder, 14 Bachelor's-walk; Robert Jackson, letter founder, 20 Meath-street, also a noted printer and bookseller already mentioned; Patrick Fitzpatrick, engraver, 12 Fownes-street; John Duff, engraver, 17 Exchange-street; John Debenham, engraver, 15 Angelsea-street; Samuel Close, engraver, 134 Capel-street; William Esdell, engraver, 3 Gordon's-lane (Charlotte-street); Rencher and Waller, engravers, 12 Dame-court; Richard Jackson, engraver and copperplate printer, North-strand; Robert Hudson, copperplate printer, 39 Fishamble-street; John Huddleston, die sinker, seal cutter, and engraver, 36 Clarendon-street; Charles Henecy, engraver and copperplate printer, 18 Suffolk-street; Edward Fitzgerald, engraver and copperplate printer, 25 Abbey-street; Alexander Ferguson, engraver, 3 Essex-quay; Francis Dawson, engraver and seal cutter, 16 Essex-quay; Brigly and Brooks, copperplate printers, 52 South Great George's-street; Henry Brocas, engraver, 9 Gordon's-lane, an artist of high repute in his line, and others.

To the above may be added the name of Samuel Clayton; though a very young man at the period, yet he was an excellent engraver. As a medallist, William Mossop, sen., excelled them all, and in subsequent years his son was worthy of his sire in the same art. Henecy, Brocas, and Clayton were excellent engravers, and good specimens of their art will be found in a number of the plates of the *Anthologia Hibernica*, and other periodicals and books before and after the Union. Several of the engravings in the magazine just named were from drawings

made by W. Beauford, an antiquarian contributor. Independent of painters—portrait, landscape, miniature, &c.—during the period alluded to, there were several artists who used their pencils if not their brushes with effect in illustration of the antiquities of Ireland; some of them were foreigners in name and extraction, but they adopted this country as their home, and were looked upon as racy of the soil. Among these were Gabriel Beranger and John James Barralet, and other artists already incidentally mentioned in the course of our papers. In 1786 Gabriel Beranger resided at 67 South Great George's-street, and Barralet at 22 South Cumberland-street. A number of practitioners who went under the appellation of "drawing masters," performed some creditable artistic work for publications in Dublin, some of these men being the principals of schools and academies in the city and throughout the provinces.

It will not be amiss, perhaps, to include here a short list of the most distinguished of the artists proper, landscape painters, portrait painters, &c., who practised with success in Dublin previous to, and some years subsequent to, the Union. Amongst them were: Barry, Shee, Peters, Barrett, Mulready, and Thompson. These artists passed over to London, and incorporated themselves with their brethren in the Royal Academy. Other native artists continued to reside at home for several years afterwards, many of them of equal talents to the former. Among these were: Ashford, Hamilton, Roberts, and Comerford. The Act of Union was, however, a sore blow to native artists of all kinds, for by the passing over to London of the greater part of the nobility and landed gentry patronage and practice rapidly declined in the capital of Ireland.

In 1788 it was computed there were 14,327 dwelling-houses in Dublin and 110,000 inhabitants; 220 peers and 300 commoners had separate residences. Dublin was indeed a fashionable and gay city at the period, and several branches of trade flourished, particularly the building ones. We have it on good authority that there were 5,000 house carpenters fully employed during the era of the Irish Parliament, and 15,000 silk weavers. In 1810 the journeymen carpenters dwindled down to 221. A large number, we may suppose, had emigrated to America, or migrated to the sister kingdoms. Between 1782 and 1800 the population of the country increased from 3,000,000 to 5,000,000.

These items are not printing and publishing ones; but it may be seen from the statement what a disastrous effect the loss of a resident nobility and gentry had upon the printing and publishing trade and kindred branches, as well as other trades, in Ireland, and particularly in Dublin.

The following names which are to be found in our Directories, 1786-96, are worthy of note in connection with their art:—John Angel, professor of stenography, 7 Fownes-street; and R. Kempston, corrector of the press, Prince of Wales's-court, Skinner's-row. Of course there must have been several correctors of the press and note-takers in the Irish Parliament and attending public meetings for press purposes, but these callings at the period of which we are writing were not organised into regular professions. Many newspaper editors in Dublin took notes for their own papers, and some barristers attended to the legal reporting. Stenography, or shorthand, as it is known in our day, was little known and practised, and a distinct brotherhood of reporters, or rather shorthand writers, as understood in our time, did not exist. John Angel's name, we believe, stands alone in the Directories of the periods mentioned as a "professor of stenography," and also that of J. Kempston as a professed "corrector of the press." For several years back in the sister capital both shorthand writers and correctors of the press are represented by distinct associations.

Connected with legal reporting in Dublin before the Union, the name of William Ridgeway deserves notice, as he was the

best, or one of the best, in his line. If we are not astray, Ridgeway reported several of the State trials and other remarkable cases prior and subsequent to the Union. William Ridgeway was called to the Bar in 1790, and resided for some time at 34 Bride-street in the closing years of the last century. Among other publications prepared for the press by this gentleman, we find the following, published in 1794:—"Report of Cases argued and determined in the King's Bench and Chancery during the time in which Lord Hardwicke presided in these Courts. Collected from MS. never before printed. To which is added Notes, References, and Tables. By William Ridgeway, Esq., LL.B. and Barrister-at-Law." Royal 8vo. A contemporary periodical, in noticing this work, observes:—"It is with the sincerest satisfaction we announce this publication, which we are confident will be received with pleasure by the learned and liberal profession to which the intelligent and assiduous editor belongs, and to which he promises to be a very distinguished ornament. It appears from the preface that the MS. from which the cases were selected formerly belonged to the late Joshua Davis, for some years the father of the Irish Bar, and that it was purchased at the sale of his library by the Right Hon. Arthur Wolfe, his Majesty's Attorney-General in Ireland, who, with that liberality which ever accompanies distinguished talents, made choice of the editor to present his brethren of the Bar, a work which he found of value himself in the course of his practice. Marginal notes are added to several cases, and some notes of cases in the Irish courts; and here the editor laments that, while the Irish Bench is adorned with the splendid talents and profound erudition of the present judges, their adjudications are suffered to pass into oblivion. This reproach, we hope, will soon fade away; and we trust that there are now at the Bar many gentlemen capable of reporting the decisions of our courts in a manner equally creditable to themselves as advantageous to the profession."

Legal reporting has indeed made great strides since Ridgeway's time, though, if one were to judge by Chief Justice Christian's recent remarks *re* law reporting, the reports that appear in our daily press in Dublin are not at all creditable to the legal reporters in our law courts. It is not, however, the art of stenography or phonography that is to blame, for these systems are perfect enough for the purpose of fair reporting. On the question of fitness, feelings, or motives actuating the reporters alluded to, or of the judge who has censured them, we intend to say nothing, as it is outside the scope of our subject.

The codification of the law is a matter which of late years has attracted considerable attention, and it is a subject of growing and serious importance. The great increase of the statutes, and the trouble and difficulties of study and reference, added to the number of acts conflicting with each other, and leading in our courts to such varying or diametrically opposite decisions, renders a codification of the law absolutely necessary. The Code Napoleon is simple; why should we not have an English code as simple, and as handy for study and reference? We are led to make these remarks from the fact that some advance was made in Ireland towards the close of the last century, in doing a portion of the much-needed work of codification. This statement may sound new and strange to many ears, who think that the advocacy of the codification of the law is entirely a movement of recent years in London.

In a Dublin monthly periodical of note of 1794, we find the following announcement which is worth reproducing:—"We have to announce the following work, which is preparing for the Irish press and speedily to be published: A General Index to the Modern Reporters relative (principally) to the Law occurring at Trials by Nisi Prius, from the period of the Revolution to the present time. The design of this work is to combine, so far as is consistent with brevity, the advantages

of a digest or succinct abridgment of the leading authorities, with the practical utility of a repertorium referring to all the cases of any importance, either way relative to each particular subject, so as to reduce within the compass of two octavo volumes, arranged and adapted for speedy research and discovery, the principal matters dispersed in seven and twenty volumes, and exhibit in one scope of view, not only the law as it now stands on the authority of the latest decisions, but also the progress of its gradual improvement through various determinations to its present maturity. The editor submits to the profession the outline of a work begun for private use, in order that they may judge how far the general plan (though perhaps imperfectly executed in the first instance) is capable of being improved and extended to various branches of the law, so as to lessen the labours of research, multiplying from daily publications, and to facilitate the studies of beginners. It is also submitted to agents that a general knowledge of modern determinations will not render them less qualified to judge where to seek assistance, and in what particulars to instruct their counsel."

Whether this work was ever completed or issued from the Irish Press, we are not sufficiently posted up in legal literature to decide. Whatever advance was made with it, it is clear that the editor did not extend his design to embrace the various branches of the law. We are inclined to believe that William Ridgeway, already named, had to do with the preparation of the above projected work; but good reasons might be advanced why the design was not fulfilled, and the work undertaken prosecuted to the much-desired end. Ireland, shortly after the announcement, presented a very disturbed state; the Rebellion of 1798 followed, next the Union; and anon another Insurrection and State Trials. Fashion and rank crossed the channel, and, with the rapid decline of trade, literary industry declined, and the publishing trade for a long interval passed under a cloud.

It is a matter for regret that no pen has left us a volume or volumes treating of the lives of our Irish artists, including our native painters, sculptors, architects, engravers, and the practitioners belonging to kindred branches. True we have some odd volumes dealing with the lives of individual members, and sundry sketches of artists scattered far and wide through magazines and newspapers, extending over long years. In the present paper and former ones we have mentioned several names celebrated in their day, of whom but scant particulars are known, and there are many others who have left us good evidences of their abilities, of whom it is impossible to obtain anything but the most meagre details of their lives and practice. Of the lives of William Mossop, sen., and his son, William Mossop, jun., both celebrated medallists, some very interesting and accurate details will be found in the second volume of Mr. Gilbert's "History of Dublin" (1859), with a list of the works of both. A short memoir of the elder Mossop was written by his son in 1821, the latter furnishing also some brief particulars of his own career. These biographical details were published for the first time by Mr. Gilbert, and they are worthy of perusal. The elder Mossop was born in 1751, and died of a paralytic affection followed by apoplexy, terminating his life nine hours after the commencement of the attack. Besides a number of beautiful medals, the elder Mossop engraved several large seals belonging to the incorporated bodies in Dublin. He also executed a head in cornelian, and a small copy in ivory of the celebrated gem of the marriage of Cupid and Psyche. An engraving of his medal of Primate Robinson, Lord Rokeby, appeared in the first volume of the *Anthologia Hibernica*, 1793, engraved by Brocas. This medal was executed by Mossop in 1789. An engraving by Clayton of Mossop's medal of David LaTouche (1785) appears in Ferrar's "Views of Dublin," 1796. William Mossop, jun.,

was born in 1788, and commenced his studies in 1802 in the Dublin Society School of Art, under Francis West, the Master of the Figure School. The younger Mossop was only a youth of sixteen at his father's death in 1804, yet, by perseverance and industry, although thrown upon his own resources, he made rapid progress. After years spent in pursuit of his art, and after accomplishing works fitted to vie with the best of their kind in Europe, the younger Mossop was fated to meet many disappointments. He projected, a few years before his death, a series of medals of distinguished Irish characters—Ussher, Swift, Charlemont, Sheridan, Grattan, and Moore; but for the want of encouragement, and through the lack of public spirit in Ireland, Mossop was obliged to abandon his favourite project. The only medal of the series published was that of Grattan, the dies of the others were never finished. Mossop, however, had previously executed medals enough to vindicate his fame, comprising other distinguished characters, and several for incorporated bodies. William Mossop, junior, was appointed secretary of the Royal Hibernian Academy on its foundation, an institution that owes its establishment to Francis Johnston, a native and distinguished architect, who became its first president. Mossop died in the early part of 1827, "having been for some time," writes Mr. Gilbert, "reduced to a state of mental imbecility, brought on probably, we are told, by intense application, and increased by these disappointments concomitant with unrequited genius and professional assiduity." More than one critic of ability has testified to the great merit of the works of the two Mossops, and acknowledged that, despite the difficulties under which they laboured, both artists were authors of specimens of their art that would not lose by comparison with those of the most skilful in that line in any country.

We have already given in previous papers some particulars of architectural works published in the last century; but of distinguished literary and practising architects of the last century, as a whole, biographical materials are scant. We know the names of several and the period in which they practised, and some of their works; but personal particulars of their lives, or even the dates of the birth and death of several, are as yet unknown to the profession or general public. James Gandon, whose practice belongs principally to the closing years of the last century, has had his biography written, but not until nearly a quarter of a century after his death. We know a few particulars of the lives and practice of Richard Castles, George Semple, Sir Edward Lovet Pierce, Thomas Cooley, Thomas Ivory, the Morrisons—John, Sir Richard, and William Vitruvius—Francis Johnston, and others. There are many however, who designed good and noble buildings in the eighteenth century and the early years of the present century, of whom we know scarcely anything. From the days of John Aheron, about the middle of the eighteenth century down to the death of Sir Richard Morrison in 1849, little on the whole has been done in illustration of the lives, practice, and works of our native architects by members of the architectural profession. The most of what has been done in the way of architectural biography has been performed by artists, writers and craftsmen outside the architectural profession, though in some instances allied to it through kindred professional and literary pursuits. Some readers and professionals may wonder at the bygone apathy of our countrymen in not encouraging native art and artists, and fostering worthy and creditable attempts to establish and keep alive a native publishing trade. Some of these people who pretend to marvel at the past are helping at present in the best way they can (although they do not pretend to see it) to crush out the remnant of the literary industry and publishing business that still exists in the country. If men are ashamed of their fatherland, we will not use a stronger term against them than to say they are to be

pitied. By helping to lift up their respective professions and arts, they will lift up themselves and their country at the same time. We are not preaching political sentiments but practical philosophy. Representative institutions properly organised and supported lead to a bond of brotherhood among men; and if this bond is preserved intact, arts and artists will be encouraged, trade and commerce will progress and prosper, and literary and scientific activity will manifest itself far and wide throughout the country. If we have digressed a little from our subject in the present paper, it was almost unavoidable for the purpose of affording the reader some side lights more or less bearing on the interests treated throughout our historical review.

## ADVERSARIA HIBERNICA,

### LITERARY AND TECHNICAL.

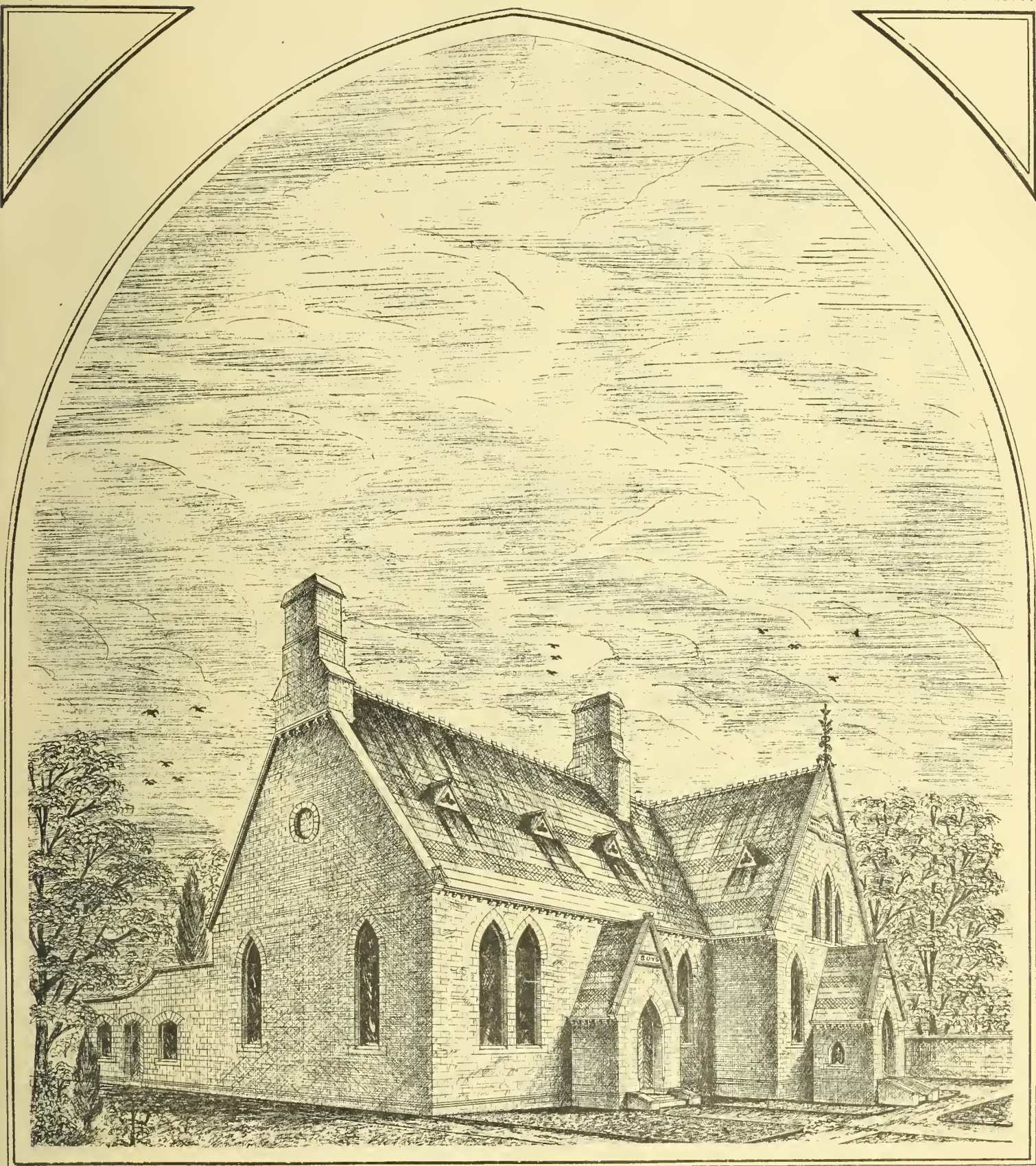
THE identification of the sites and the history of the erection, use, and disuse of several of the old public conduits and fountains of Dublin would afford an interesting field for archaeological research. Passing over the history of the growth of the old conduits, extending over a period of several centuries, and confining the subject to that of the establishment of modern public fountains in the latter end of the seventeenth and throughout the eighteenth century, much interesting *memorabilia* could be brought to light.

Formerly in Dublin there were one or two fountains in almost every street, and many of them were really ornamental as well as useful, though latterly—from the growth of the city, the altered condition of the water supply, and other changes in respect to habits, customs, and trade—the majority of the ordinary public fountains became serious obstructions, if not actual nuisances. Throughout the greater part of the eighteenth century, before the city had greatly increased in size and in the number of its buildings, the existence of numerous fountains caused little obstruction, and added, perhaps, a picturesque charm to the street view. In the absence of a regular pipe water or metal main supply, public fountains and pumps were indispensable.

The old Paving Board of Dublin is to be credited with the work of removing the majority of the fountains which were to be witnessed in the earlier part of the present century in Dublin. The ordinary street fountains were certainly the cause of many accidents, and they were in poor localities generally crowded around from morning till night with crowds or groups of poor people, and also with a good sprinkling of idlers of the masculine gender, who resorted to those places for pastime, particularly in the summer time. The Mollys of the washing-tub and the Biddys of the city dairies were to be found around the public fountains; and of course wherever these charmers with their cans, pitchers, and pails were to be met, the Paddys, the Andys, and Mickeys also congregated for the "fun of the thing." The pavement around these fountains was always in a wet and slippery state, and in winter time their surroundings were often sheets of ice.

In some of the old "Views" of Dublin in the last century, particularly Malton's, several of these public street fountains will be found illustrated, and in some instances the artists give truly representative pictures of nature, animate and inanimate, in connection.

Some public fountains of an ornate character were erected beside public buildings and squares towards the close of the last century, apart from those in the streets. On the west side of Merrion-square, facing Leinster Lawn, are still to be seen the remains of what was once considered by the citizens a beautiful fountain and a work of art. This fountain, which has not flowed in our memory, was originally erected by his Grace the Duke of Richmond when viceroy. This fountain was thus described nearly sixty years since, when it was in a tolerably perfect state:—"In the centre is an arch, within which re-



NEW PAROCHIAL NATIONAL SCHOOLS, HOLYWOOD, CO. DOWN,  
WILLIAM BATT, ARCHITECT.



clines the fountain nymph leaning on an urn, from which water is represented flowing in an uninterrupted stream into a shell-formed reservoir beneath; on the frieze of the entablature above is a beautifully-executed medallion, on which is represented the story of the Marquis of Granby relieving a soldier's family in distress; and on one side is an inscription setting forth the life and conduct of the Duke of Richmond; while on the other, above the orifice of one of the fountains, is this inscription—*"His saltem accumulæ donis fungar inani munere."* This inscription for many years back has not been decipherable, and the fountain is now more of a city antiquity than a public ornament.

In the wall in front of the Royal Barracks another fountain or public conduit may still be seen, which owes its erection also to the Duke of Richmond. This conduit was erected in 1785, and some others were erected under the same viceroyalty, for the purpose of better supplying the poor with water. In Great Britain-street, near the intersection of Cavendish-row, an ornamental street fountain existed for several years, and it is represented in one of Malton's views in connection with the Rotundo buildings. In Thomas-street and James's-street public fountains of an ornamental character existed in the last century. The James's-street sun-dial fountain is known to most of our old citizens.

In the early volumes of the *Dublin Penny Journal*, one or more illustrations of old public conduits or fountains will be found with some details. We believe the sketches and particulars were supplied by the late George Petrie, but we quote from memory. Public fountains in these days are erected often more for ornament, or for testimonials to particular persons and public men, than for the purpose of supplying water to the poor. Of recent years in the Dublin streets the Crampton Fountain is the only one of note we remember to have been erected. It has not been very successful, either as a work of art, or fulfilling other purposes it was designed to meet. The corporation of Dublin are not likely to move in these times in the interest of public fountains, or to aid in their erection, however artistic they could be made. The Municipal Council have now, and have had for some years back, enough of water on the brain for their peace of mind or comfort.

Cabinet making and upholstering as trades are found in our day generally associated together, though formerly they were often practised separately in one sense. They are still separate trades as far as the practical workman is concerned, though warehousemen and furniture makers and sellers trade under not only the two branches, but under several kindred ones. Indeed our modern cabinet makers or rather furniture warehousemen are chair and sofa makers and upholsterers, and undertakers, as well as cabinet makers. The above-named trades have of late years in part been invaded or encroached upon by a class of decorative architects, whom we might call architectural upholsterers or, more fitly, upholstering architects,—a class of professionals of whom we have not a very high opinion.

House painting is good in its own way, and so is decoration, when the manipulators are real art workmen. Painting, sculpture, and architecture, as branches of the fine arts, are noble callings, and as arts deserve every encouragement on the part of society. If architects are disposed to design the furniture and upholstery in connection with their houses, and receive a commission to do so, there is no reason why they should not try their hands at these branches. Some distinguished architects have already done so, and added to their previous reputation by successful furniture design. Others again have tried their hands upon furniture and hangings, and deserve to be hanged for their attempts. There is no absolute necessity for architects in general dabbling with furniture or upholstery as a whole, or running amuck with painting and decoration schemes and systems. We would prefer to see architects

keeping to architecture—to the important art of building, truly and well. Given a building to design, no matter how large or small, let the purpose for which it is required be kept in view. Misplaced or overloaded ornament is useless work, and often mischievous and serious in its results. The work becomes more censurable when the architect is found to have ignored healthy planning, and his rooms exhibit bad arrangement and hollowness within. The child of his brain is often a half-starved creature, a clothed skeleton, swathed with flannels and silk and satin without, while emaciation and corruption are found underneath. Our upholstering architect who is found fluttering around wall papers and other hangings, to the neglect of the fundamental principles of his art, is a dangerous character to have any dealings with. He loves paint, and as a consequence is perhaps partial to putty; he delights in doses of elaborate decoration, but simple and honest systems of life-saving drainage stink in the great little man's nostrils. Pass him along; do not hurt him or insult him by telling him a wholesome truth; leave him to himself, and let him die with his illusions undisputed. A word or two more: should you be inclined to present him with some form of testimonial—for men of this class are terribly alive to honours—present him with an upholsterer's hammer and a package of tin tacks, for these things will be more useful to him than a good box of drawing instruments or a highly-polished T-square. Having done this, let him hammer away to his heart's content, and ride his hobby to the end of the chapter.

*Apropos* to the above a paragraph has just caught our eye in Sir Edmund Beckett's recent "Book on Building." He writes:—"Of all the contrivances for making rooms uncomfortable and useless, except for lolling in low chairs and reading books (in every sense light), the recent fashion of abolishing a central table is the worst. Drawing-rooms have become mere places for the exhibition of what we called ornaments, mostly rubbish, and a sort of subsidiary green-house. And this nuisance of abolishing useful tables for useless and uncomfortable seats of various forms is extending to clubs, under the influence of either furniture men or professors of taste and fashion. This, however, is beyond the scope of building, which only extends to what is called fixed furniture, and luckily these things are not. It is generally forgotten that flowers and shrubs in rooms at night make the air unwholesome, though not by day. People sometimes feel it so much that they have to remove them. A green-house open to the room is liable to the same objection, and to the further one, that it always keeps the room damp. This should be considered in building them." Who are the "professors of taste and fashion" that Sir Edmund Beckett had in his eye? Why, who other but the upholstering architects already alluded to who are everlastingly clattering and jabbering like parrots about "taste," and that unfortunate and sorely mangled term "æsthetic." The perception of the beautiful, or the theory and philosophy of taste are, to be sure, very interesting fields of thought, but there is no necessity for ascending into clouds on such a subject as architecture. "Castles in air" are easily built, but what is wanted is good buildings upon the earth, ornamental if you will, and if needed, but useful and suitable for the purpose for which they are intended. Many of our modern drawing-rooms are indeed only places of show, and used for the piling and exhibition of gim-cracks and rubbish. Some so-called middle-class people pride themselves on their "nicely furnished" drawing-rooms, which they seldom use. They live in front underground kitchens, called breakfast parlours for the grandeur of the thing. As fires are seldom lit in the deserted drawing-rooms, the furniture, carpets, curtains, &c., are in a state of dampness and dry or wet rot. What happy lives some stuck-up folks live! They will not enjoy the use of their

own furniture for fear they would wear it out too soon, and visitors might make nasty remarks. This system of keeping up appearances is admirably adapted for making people miserable all their lives, but the folks alluded to "don't see it." H.

## GREEK AND ROMAN ART—

THEIR CONNEXION WITH THE TEACHING OF THE CLASSICS.\*

### LECTURE IV.

(Continued from page 9.)

THIS day week I tried to give you a sketch or summary of the historical course of antiquarian discovery, and of the accumulation of the materials of this study. Naturally, it has happened that alongside of that gradual accumulation, through several centuries, of the materials, progress has also been made in the methods of interpreting the materials. We know now a great deal better than people did at first how to interpret the works of ancient art, how to explain, understand, and enjoy them, and I want to-day to give you a sketch following the same historical line as last week, of the development of our methods of study.

First of all, in the early days of the Renaissance, in the days when Cyriac of Ancona was traversing Greece and the Levant, and in later days than that, throughout the fifteenth and sixteenth centuries, the scientific study of archæology cannot be said to have existed. The rapid and wonderful recovery of ancient monuments was at first like the equally rapid and wonderful recovery at the same time of ancient books and manuscripts. It was attended with more enthusiasm than judgment. In the re-discovery of ancient books, in practising themselves in the reading of classical languages, in the composition of poems and histories in Latin, the Italians, in those early days of the Renaissance, seemed to themselves to be literally reviving antiquity, to be going to live again in the ancient world, to be going to use the languages, and to renovate and bring back to ancient earth again those ancient times. So it was with the study of ancient art. It was studied in a certain sense with a passionate enthusiasm and admiration, but not with a scientific and exact knowledge of what it was, and what the particular pieces discovered meant from the point of view of the original artists. These things impressed the imagination of their discoverers as new forms of beauty; but they wanted to restore them; and in their own works of art they adopted them as models, and reproduced them in a thousand ways, but with free variations of their own. Thus, among early discoveries of antiques were many sarcophagus reliefs with Neptunian subjects of Tritons and Nereids, and many others with Bacchanalian subjects of Fauns and Maenads. These we find over and over again copied by the great engraving artists of that time, copied freely and with imagination—not copied so much as adapted and transformed into new compositions, in accordance with the spirit of the time. Their imagination was awakened, but they did not feel the need of patient investigation, to see what such an antique was in its original form, and proceeded at once to some enrichment of it by restoration, and by reclothing in it what seemed, to their hasty apprehensions, the ancient spirit. Therefore, there began to be a trade of restorers. The great restorer of all was one Montorsoli, and Michelangelo himself was employed on certain statues. And so the Renaissance took a kind of crude delight in ancient monuments; but not the kind of delight we have now-a-days, in keeping them sacred as objects not to be meddled with, but to be studied with all the resources in our power, in order to find out with precision what they were and mean. As the men of the Renaissance proceeded to handle and to repeat their antiques in this enthusiastic, free, unrestrained way, altering, adapting, re-clothing with their own imaginations the things they found, so, also, they had a way of interpreting them which was very different from ours. The classical literature which they were full of, the classical past which occupied their imagination, was not the literature or the past of Greece nearly so much as that of Rome. To the people of the fifteenth and sixteenth centuries, old Roman history and Roman antiquity seemed like a part of their own antiquity and history. The history of Rome and the legends of Rome, were familiar to all; the great masterpieces of Greek literature were only familiar to a very few of the especially learned. Antiquaries rushed at once to Roman interpretations. Or, rather, they interpreted the works of art which they found in two ways, that seemed contradictory. For one thing, the moment they found

\* Cantor Lecture. By Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge.

anything that seemed beautiful and wonderful, they were very prone to assume at once that it was the work of some of the great, famous artists that were known through ancient literature, the work, for example, either of Phidias, or Praxiteles, or Scopas; but although they had this hasty way of identifying whatever they found with the most illustrious Greek names, they had that other habit which seems incompatible with this, but which was still more prevalent, of explaining everything, not by Greek, but by Roman history. Thus there is that famous figure of Mercury, the Hermes of the Greeks, fastening his shoe when he is about to be sent on an errand by Jupiter. They were not accustomed to the idea that ninety-nine out of a hundred of all works of Greek and Greco-Roman art are representations of Greek mythology. They naturally thought of Roman history, and said, this figure, preparing to start on a journey suddenly, was Cincinnatus summoned from the plough to save Rome. Similarly, there is one of the things early discovered in Rome, and one of the most beautiful now there, an elaborately draped, reclining woman, with her arm flung over her head, wearing two armlets partly injured (but they are now restored) in the form of snakes, one on either arm. To us, who have other things to compare with this figure, and who know what the nature of such representations was likely to be in ancient art, it is not hard to interpret that well-known figure. There is no doubt at all what it is. It is an Ariadne lying in her abandonment on the island of Naxos, after being deserted by Theseus; but to the Renaissance Italian, who thought first of Roman history, he looked simply at the form of the armlet, and called this Cleopatra; and so it has been known, and is still, in the ordinary guide-book account of these things. Similarly with many other figures. There are ancient records of a group which was set up on the Acropolis, that is to say, outside the wall of the Acropolis at Athens, by a king of Pergamos about 200 years B.C., in commemoration of a great historical victory, a victory of his people over the invading Gauls, or Galatians as we call them now, in Asia Minor. We know from ancient authors that this group existed, and there is a very famous figure which undoubtedly belonged, if not to that group itself, at any rate to an analogous subject of conquered Gauls, viz., the figure commonly known as the "Dying Gladiator." The early interpreters, thinking still of Rome, finding this reclining figure leaning on one arm, bleeding from a wound, called it the "Dying Gladiator," and associated it with the Roman gladiatorial games. There is another group which happens to be made of the same marble, and in all technical points exactly like it, in a private collection at Rome, the Villa Ludovisi, of a similar Gaulish warrior in the act of suicide, stabbing himself, while just beside him is the corpse of his wife, who has been already stabbed. The old interpreters, not having the ancient literature relating to the subject in their mind, thinking only of the literature of Roman legends, gave one of two interpretations to this man stabbing himself with the slain woman beside him. Either, they said, it is Virginius who has just stabbed his daughter and then stabs himself, or else, turning to the history of the old Roman empire, and a particular conspiracy that happened in the age of Claudius, they said it is the representation of Arria, who sets her husband an example of fortitude. Those are examples of the hasty, mistaken interpretations of the early students of these things, which have remained in popular currency, in many instances, to our own day.

But as the study of antiquity got a little clearer, still the same idea prevailed. We find the same mode of interpretation, not by Greek authorities, but by Roman authorities, and particularly Ovid, or by passages of some other Roman poet. Coupled with that was the supposition, which is an entirely erroneous one, that the poets were the great and only inventors in the early world, that it was they who told the story, and then the business of the artist was (just as the business of the modern artist is to illustrate a novel) to take the subject which a poet had given, and by sculpture, or painting, to illustrate that. One of the most interesting and entertaining monuments of that mode of interpretation is an English book published in the last century, which had a great reputation in its day, and which is a monument of elegant English scholarship of the time, the "Polymetis" of Spence. In that book the scene is laid in a refined country circle of society; the owner of the house in which the action and the conversation take place is represented as having his grounds laid out with temples, corridors, and buildings, and as having grouped in these temples and corridors, casts and reduplications of well-known ancient works of art. In this way Spence goes through almost all the then known existing works of art, and brings to bear on their explanation a vast range of Roman literature, of Ovid especially, but scarcely ever touches the

Greek authors at all. He makes his work an entertaining book, but on a basis now utterly obsolete. First of all, we know that the prevalent stock subjects of ancient art are not subjects of real life and real history at all, still less of Roman life and history, but inventions of the Greek mind, the whole legendary range of Greek mythology; and the great mass of late Roman art, such as are the things which have been chiefly found in Rome, are copies and echoes of these Greek ideas. That is one main point which later criticism has established. And another is, that the artists and writers do not hold the same kind of relation to one another as they were supposed to do by the mode of interpretation I have described. Ancient artists did not hold the same relation to ancient poets and historians that a modern illustrating artist holds to a modern novelist or poet. The work of art is not, in that strict, literal way, an illustration of the poem, but it is an embodiment of the same idea as the poet embodies in his own way, under other laws—the laws of the particular art of the sculptor or painter. You are, most of you, familiar with the great work of historical criticism which for the first time laid down broadly and clearly, in a way that can never be contested, the foundation of this distinction. Of all the ancient works of art that were likely to seem to people to be a literal illustration of literature, the famous group of the Laocoön was perhaps the most striking. Everybody was familiar with Virgil's incident of the destruction of the Laocoön and his children by serpents in the *Æneid*. It was so familiar to everyone that it was obvious and natural immediately to connect with this episode in Virgil the famous marble group of the Laocoön and his children strangled by serpents. A great German of the last century, Lessing, took this particular point as the centre of his study; he compared the Laocoön group with the poem in Virgil, and showed, in the most masterly criticism which had ever been produced, that it is idle to look in a work of that kind for a literal illustration of the thing as it has been conceived by the poet, and that the way to study sculpture is to regard it as having been independently conceived by the sculptor, and worked out according to the laws and methods of his own art.

Now, I tried to bring home by an example—and a very pointed example it is—the necessity in our study of remembering this point. The example was taken from the frieze which goes round the Choric monuments of Lysikrates, at Athens, and which represents the victory over Tyrrhenian pirates, in connection with the Homeric hymn describing the same event. We then saw that this Attic frieze was not, in our modern sense, an illustration—that in certain points of the legend which did not lend themselves to sculpture were altogether neglected, and other points which were the natural language of sculpture were introduced; that the idea was interpreted not in the poet's, but in the sculptor's way. Lessing arose, and established that distinction between these two branches of art, and that was only one of the immense services wrought in the eighteenth century, and especially in the latter part of the eighteenth century, to the scientific study of antiquities. The study of such antiquities altogether had received an immense impulse from various events which happened in the eighteenth century. First of all, by the dramatic re-discovery of Herculaneum, leading up, subsequently, to the re-discovery of Pompeii. These cities, buried under the ashes of Vesuvius, yielded their treasures in a way that naturally appealed to and struck the mind of Europe. That was one thing which gave an immense impulse to this study in the last century, and another thing which, perhaps, on the whole, did most of all for the really accurate study of art, especially of Greek art, was the expedition of two Englishmen, Stuart and Revett, to the coast of Asia Minor, and especially to Athens. For the first time properly trained architects and draughtsmen went and examined, and measured, and drew in Athens; and their work has been followed up in our own century by illustrious successors; the work they began in 1752 has been followed out by men of our own time, as by Mr. Cockrell and by Mr. Watkiss Lloyd. Coupled, then, with the rise of a learned and serious criticism in Germany, coupled with the eager movement of men's minds on the discovery of those ancient buried cities, we have to think of this scientific expedition, for that is the proper name of it, of Stuart and Revett, in which they drew and measured accurately and authentically the buildings and sculptures of the Parthenon, and other Athenian monuments, as a third great impulse given to this study in the eighteenth century. There is also a mass of minor impulses. I spoke last week of the enthusiasm with which young English noblemen collected and bought very often bad things, and stimulated what was a mischievous manufacture, and putting together of heads, and legs, and dissected portions of Roman statues in Rome; but

still, with all that, we acquired a great many precious things. At that time, in 1734, in the first half of the eighteenth century there was formed a society especially for the study and collection of these things, the Society of Dilettanti, which has existed from that date to this, and in the course of its career has done excellent work.

Besides Lessing in Germany, the great pioneer of the criticism of these things, there was another great German who laid the foundation of the history of ancient art, just as Lessing may be said to have laid the foundation of its criticism. Winckelmann laid the foundation of the history of ancient art. You know how he made his way from the Court of Saxony, where he was librarian, to Rome, fired by an unbounded enthusiasm of these things; and how the result of his labours was to bring together for the first time a coherent systematic sketch, founded partly on what we know from literature, and partly on the existing monuments, of the history of the actual growth and development of Greek art. His work can never be wholly superseded. Partly the fire and enthusiasm which led him, in spite of all difficulties, to devote his life to this study, partly the genius and insight of the man, which enabled him from the works of Roman art to divine the course and history and character of Greek art, and partly his colossal literary learning, have justly made his name the greatest founding name in the history of ancient art. But there was one thing in Winckelmann's way which made it quite impossible that he should advance the study to its final point. He did not know the works of original Greek art. What he knew was the things which were then collected in groups in the Vatican and elsewhere in Rome, the works discovered especially in the fifteenth and sixteenth centuries in and about Rome, which had ever since their discovery been established and accepted as the canon of beauty, and greatness, and perfection.

In Winckelmann's days the Laocoön, the Apollo Belvedere, and certain works of late Greek art, or of Roman art imitated from the Greek, stood in all men's minds irrevocably as the great and perfect types of ideal art. Winckelmann was not able to go beyond his age. His criticism of the Apollo Belvedere moves on to this day with its beautiful thought, its lyric fire and enthusiasm, but it is wanting in a certain discrimination which could only be supplied by the study of real works of Greek art. A work like the Apollo Belvedere, striking and beautiful in a certain sense though it may be, has yet precisely those qualities which are not the qualities of the great Greek art of the great Greek time. The first and perhaps the chief difference is, that it has a certain artificial and theatrical bearing which is very different to the consummate unconscious majesty of the time of Phidias; but beyond that, there is the mechanical character of the execution, which belongs not to the greatest age of art, but to an age of clever imitators. If we examine sculptures of this class, though they exhibit much mechanical smoothness of finish, still, if we compare them with the things we now know, and have to compare them with, namely, the Elgin marbles, we find that they have not that infinite richness, minute diversity, and preciousness of surface which belongs to the great Phidias time. It is rather as empty mechanical smoothness, leaving out a great deal of the reality of nature. Thus, in the mind of Winckelmann the leaving out and softening down of nature came to be accepted as part of the grand style; it came to be regarded as necessary that work should be more or less empty and superficial, that the natural varieties of the surface of the skin, of the surface of the flesh parts, of the impression of the bones under the skin—it came, I say, to be considered indispensable to the grand style, that these natural details and varieties, which really give half its preciousness and beauty to sculpture—should be left out. That was a great and fatal error, and an error that only one thing could possibly remedy. That one thing was the event which, as we heard last week, happened in the early part of this century, the bringing over of that rich collection of the existing remains of the work of Phidias, the sculptures from the decorative parts of the Parthenon at Athens. In speaking of the transferrence of the Elgin marbles to London, I spoke of the opposition which Lord Elgin met with, and the clamour and outcry which was raised at the time by certain so-called great authorities in England against his marbles. These so-called great authorities, having their minds and eyes full of the comparatively shallow Roman work, would not accept the true Greek, and declared they were of no value. For ten years this struggle was kept up, until those who were really competent to speak—such as Visconti, Canova, Haydon, the enthusiastic painter, and others—succeeded in persuading people that there was something in them. Then, by degrees, several eminent sculptors, such as Flaxman,

Chantrey, and others, all agreed in asserting their pre-eminence, and so, by degrees, the revolution of taste was effected. The consequence of bringing here these Elgin marbles, and of the eyes of sculptors and students being accustomed to them, was a greater advance in the study than had ever been made before. It was the placing of the study on an altogether new footing. We were for the first time brought face to face with the real work of Greek art in its greatest time, and we were able to realise what that was; to realise what that character—defined by a late Greek writer, with signal felicity, as “a perfect mixture of the two qualities, greatness, or grandeur, and exactness”—really was. With that the study was placed on a new basis, and since that time many new aids to the study and improvements of method have, one after another, succeeded. It is in Germany that the study has found its most clear and best exponents. The great successor of Winckelmann in the nineteenth century, who grasped the whole range of the study as far as it could be grasped in 1835, and who wrote a famous handbook which to this day remains the A B C of the subject, was K. O. Müller. He has had a goodly army of followers, whose names time would fail to mention, and who are still carrying on the study with an activity to which in England we have no parallel; but there are a few names, and amongst them are some of the greatest of men who among us have systematically studied ancient art; but in our Universities we look absolutely in vain for a systematic study of this subject, and it is in order, I believe, to awaken in some degree an interest in it, that I have been asked to give this sketch of the study here. Then, besides the devotion of a number of men of learning and fine insight to this study in Germany, and a few such men here; besides this great concentration of energy and power upon the study, continual new material has been discovered. That great discovery of vases which began in Campania in the latter part of the last century has contributed much. I told you how the English ambassador, Sir William Hamilton, was the first great excavator and collector of vases, and how his work was followed up by innumerable discoveries in Italy, Sicily, and the coast of the Mediterranean during the last sixty years. The recognising of this or that coin as miniature types, which we can compare with accounts in ancient literature, being the reproductions in small of famous works of ancient art, has been another great aid. Coins, gems, and vases, and small objects in terra-cotta, these minor objects have been daily, one may almost say, discovered and examined by scholars, and analysed in relation to the major works of art and to the literature of the subject, from the earliest to the latest periods.

(To be continued.)

### THE ROTUNDO LYING-IN HOSPITAL.

SOME alterations and improvements have been carried out in connection with the hospital buildings in this public institution, necessitating an outlay of upwards of £3,000, extending over a period of eighteen months. The lying-in department has been entirely separated from that devoted to diseases peculiar to women, and a new detached dispensary for extern patients has been built. The alterations and reparations were much needed, and as funds accumulate it is the intention of the governors to carry out still further works of improvement. The greater portion of the works connected with the hospital were executed by Mr. Thos. Pemberton. Those connected with the repair of the public rooms are now being carried out by Mr. Thomas Millard. All the works have been in accordance with the plans and under the superintendence of Mr. Frederick A. Butler, architect, of this city.

We have from time to time in our back volumes given some historic particulars of the Rotundo Hospital, its founder, Dr. Bartholomew Mosse, and its architect, Richard Castles. We also directed attention to some beautiful pieces of workmanship not generally known to the public to be seen in the hospital chapel, the work of Crenillon, a French artist, and the two Francini, Italian sculptors. The stucco work on the ceiling of the chapel is both curious and beautiful, and is worthy of the attention of architects and building craftsmen of the present day. The stucco workers, or rather the plasterers, of the present day would do well to take a

look at this old stucco work, and see if they could equal it. There is a house in Rutland-square which was built for Dr. Mosse, as his private residence, the stucco work of which was also executed by the Francini. Although a good deal of excellent work was done by foreign artists in Dublin from the middle to the close of the last century, there was at the same time no small number of native artists and craftsmen, who executed excellent work in connection with several of our public buildings and the large town mansions of our nobility during the same period.

### BI-CENTENARY OF THE ATHENÆUM.

Dr. Doran, in a letter to the *Athenæum*, glances at the start and progress of that very well-edited critical journal. We have much pleasure in printing the more generally interesting portions of his letter:—

“The *Athenæum* ought not to let its fiftieth birthday pass without remark. On Wednesday, the 2nd of January, 1828, the first number of the *Athenæum* was published, at the office of the *Sphinx*, in the Strand, near Somerset House. The price was 8d.; stamped, to go by post 1s. In an address to the public Mr. Silk Buckingham announced himself as editor, and as part proprietor with Mr. Colburn. In the former character, Mr. Buckingham declared that he was alone and absolute; in the second, that he was not to be influenced in the slightest degree when judgment was to be pronounced on books issued from his partner's shop in Conduit-street! The first number consisted of sixteen pages only; of these three and a-half were occupied by advertisements. The opening article, an essay on the ‘Characteristics of the Present State of English Literature,’ took a depressing view of those characteristics, and expressed a conviction that contemporary authors were not under the impulses of a passionate love for literature, but were men who ‘sought to gratify the caprice of the reigning taste, and obtain an immediate pecuniary reward, without reference to the good or evil that may result to others from their productions, or the reputation which may await their names beyond the present century.’ After denouncing in severe terms the alleged worthlessness of most modern literary works, the writer of the essay proclaimed a new mission, that of checking the superabundance of valueless works by throwing upon them the (to them) intolerable light of criticism; and the first literary review, succeeding to the essay, is one on Dr. Hampden's work ‘On the Philosophical Evidences of Christianity.’ . . . . In the two concluding articles, ‘The Fine Arts’ and ‘The Drama,’ the first examines the growing opinion ‘that the perceptions of men in cultivated society are sufficient, without an education specially to that end, to enable them to understand and appreciate the merit of works of art.’ The second article deplores the condition of the stage as regards its literature, but maintains that, with the exception of a tragic actress, the stage never possessed at one time a more efficient company of players than the London theatres could furnish in 1828. Such is the summary of what is given on men, their works and their views, in the first number of the *Athenæum* half a century ago. At the close of the year, Mr. Buckingham congratulated himself and the public on the position of the paper, which he described as ‘the largest weekly literary journal ever issued from the English press. At the close of another year the management of the paper was temporarily transferred to new hands, John Sterling becoming chief proprietor. This arrangement continued during the first half of 1830, terminating in June of the same year, when the late Mr. Dilke issued his first number, and continued his active editorship till 1846, but not ceasing then to be an occasional contributor. The *Athenæum* was thenceforth printed by Mr. Holmes, who also possessed a small share in the paper. To enable its stamped (shilling) edition to go by post, it was necessary that it should pass for a newspaper. Consequently the high-priced issue contained a digest of commercial intelligence, with an account of the corn and money markets! The earliest numbers of the series beginning in June gave unmistakable signs of the infusion of fresh blood: there was also a greater variety of subjects discussed. . . . . And here let me add an illustration of the law with respect to advertisements. Hitherto these announcements, if inserted in both editions, were charged for as if those editions formed two journals having no connexion with each other. The cost of insertion was great, because the tax upon advertisements was enormous. Mr. Dilke announced that

he would insert the advertisements of the unstamped edition in the stamped issue without any additional charge. The Government officials at Somerset House were not in the least degree moved by this act of generosity; they exacted a second duty of 3s. 6d. on every advertisement published in the two editions of the same paper. The duty alone thus amounted to 7s. Among the objects successfully accomplished in great part by the advocacy of the *Athenæum* may be named the abolition of the Stamp Duty and of that on paper. . . . . On looking over special papers in the *Athenæum*, it will be found that the journal has always been well to the front in not merely supporting but suggesting reforms. On questions connected with literature—to wit, a Free Press and Free Libraries—the *Athenæum* was ‘initial,’ and, apart from politics, there has been no subject referring to necessary reforms which has not been earnestly suggested or heartily maintained in your columns.”

### THE HEALTH OF DUBLIN.

THE deaths registered in the Dublin Registration district during the week ending 5th inst., represent an annual mortality of 31·4 in every 1,000 of the population, by the census of 1871; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·1 per 1,000. In London the death-rate was 27·6 in every 1,000 of the estimated population; in Glasgow 28·9, and in Edinburgh 28·8. The number of deaths from zymotic diseases registered is 38, which was also the average number in the first week of the last ten years. The deaths from these diseases include 3 from small-pox—those of a man aged 28 years, a resident of No. 2 North City (Coleraine-street) District, who died in the Hardwicke Hospital: the return contains no reference to vaccination; a girl, 3 years old, from No. 1 South City (Meath-street) District, “unvaccinated,” whose death occurred in Cork-street Hospital; and a girl aged 18 months, a resident of No. 2 South City (High-street) District, who also died in Cork-street Hospital, “no vaccination mark visible;”—4 deaths from fever (1 typhus and 3 typhoid or enteric fever), 10 from measles—one-half of which occurred in No. 4 South City (Denzille-street and Grand Canal-street) District—6 from whooping cough (4 of which were in No. 2 North City District), 3 each from scarlet fever and croup; 2 each from diphtheria and diarrhoea, &c.

### BOOKS RECEIVED.

*Spons' Architects', Builders', and Contractors' Pocket Book*, 1878.—This is the fifth yearly issue of this very handy book of reference. We highly approve of the arrangement by which the matter is placed in alphabetical sequence throughout the first part, which extends to 238 pages of the work. The second part gives the various prices of building materials in England.

*Industrial Art:—A Monthly Review of Technical and Scientific Education at Home and Abroad*. London: Hardwicke and Bogue.—This 4to monthly serial is elegantly printed, and the woodcuts in the four numbers to hand, are about the finest we have ever met in our lengthened experience. In view of after binding, we would suggest that the heads of each number should be left uncut.

*The Whitworth Papers*. Manchester: John Calvert.—This is a reprint of three papers by Sir Joseph Whitworth, now first published for the benefit of mechanical engineers in a cheap form. A large sale will, we have no doubt, reward the publisher for his speculation.

*Calvert's Mechanics' Almanac and Workshop Companion*, 1878. Same publisher.—We took occasion to notice the fourth issue of this brochure, and can add nothing to what we have already said as to its merits. The fifth, now before us, is very readable and instructive.

NOTES ON THE EARLY HISTORY OF  
THE IRISH STAGE.\*

On the 14th of August the Lord Mayor (the Right Hon. William Forbes) desired a play "for the entertainment of the aldermen, the sheriffs, and the master, wardens, and brethren of the city of Dublin." On this occasion of the triennial perambulation of the city, the minor corporations or guilds in connection with the major body went to considerable expense in preparations for an attractive display. The various guilds which formed the procession exhibited the banners and symbols of their respective crafts, and in the cars and wagons that proceeded through the city representatives of several of the trades worked at some portion of their art as they moved onward with musical accompaniments. The custom was an old one, and though not fully and continuously observed, it was carried out more or less for centuries in Dublin as well as in other cities. These triennial perambulations and the pageants in connection with them continued down to 1772, when they were abolished by the Lord Mayor's proclamation. In after years their memory was kept alive from time to time by sadly-shorn exhibitions.

The play at Smock-alley and other entertainments provided by Mossop was to act as the brilliant wind-up of "Riding the Franchises" without. The play chosen for the occasion was "Richard the Third," Mossop personating that character; King Henry, Aicken; Tressel, Ryder; Duke of York, Master Dawson; Lady Anne, Mrs. Kelf; Queen, Mrs. Usher. Mossop's part appears to have been performed with satisfaction, for Hitchcock writes:—"From the great variety of dresses which the wardrobe of a theatre must necessarily consist of, it was always in a manager's power to assist in a peculiar manner such representations, and so amply did Mr. Mossop contribute to the brilliancy and pageantry of the present, that several of the corporations returned their acknowledgments to him in the public papers 'for lending them habits, ornaments, and decorations, which added considerably to the splendour of the franchises.'" The play of "Richard" in Smock-alley, was followed on the night in question by the farce of the "True Born Irishman,"—Macklin personating Murrrough O'Dogherty; Aicken, Councillor Hamilton; Ryder, Count Mushroom; and Mrs. Dogherty, Mrs. Kelf.

Musical engagements turning out profitable at Smock-alley, Mossop resolved on keeping for awhile to this line, so he renewed his engagement with Miss Catley for the next season, and concluded articles with a new burletta company. The burletta company consisted of Signiora Spiletta with her father, sister, and several relations. The then celebrated lady had performed the season before at the Opera House in London. Her brother afterwards became the better known and admired Signior Tomaso Giordani, whose musical compositions were once held in high repute. A number of capital dancers were also engaged for Smock-alley, and these with the burletta company, formed the principal attraction during the winter season. At Crow-street Barry was not behind-hand in providing novelties for his patrons. The list of the performers at both theatres in November, 1764, exhibits considerable strength for the period. The company at Smock-alley consisted of the following, embracing a number of excellent actors:—Mossop, Ryder, Sowden, Dawson, Master Dawson, Wilder, Aicken, Waker, Lewis, Collins, White, Casey, Harper, Remington, Fawcett, Reilly, Connor, Smith, Reynolds, Jagger, Jefferies, Nepecker, and Saunders, an equilibrist. The lady portion of the company consisted of Miss Catley, Mrs. Kelf, Miss Willis, Miss Ambrose, Mrs. Barry, Mrs. Johnson, Mrs. Hartry, Mrs. Packenham,

Mrs. Dunlop, Miss Dunlop, Miss Garvey. We reproduce the full list, although several of the actors and actresses mentioned do not figure prominently in after years either in connection with the Dublin or London stage.

At Crow-street the company comprised Barry, T. Barry, Brown, Macklin, Sparks, Heaphy, Mahon, Kennedy, Glover, Hurst, Usher, Vernel, Hamilton, Ellard, Glenville, Austin, Morris, W. Palmer, Mynitt, Messink, Billingham, Stageloir, Signior Colpi, slack rope, Venetians, and children. The ladies were, Mrs. Dancer, Mrs. Abington, Mrs. Kennedy, Mrs. Fitzhenry, Miss Mason, Miss Ashmore, Mrs. Glover, Mrs. Ellard, Miss Parsons, and Mrs. Hamilton. The burletta company alluded to in connection with Smock-alley were known by the following names:—Signior Tomaso Giordani, Signior Francisco Giordani, Signior Peretti, Signior Guerina, Signiora Spiletta, Signiora Giordani, Signiora Guerini.

On October 15th, Smock-alley opened with Mossop's Richard and Ryder's Scapin. The "Beggars' Opera" next followed, with new accompaniments by Signior Giordani; this, with "Love in a Village" and the new burlettas, were alternately performed for six or seven nights each. The burlettas, we read, pleased much, Spiletta becoming a great favourite. Catley's singing, however, soon took the lead, and continued to draw crowded houses.

Collins, an actor who made his first appearance on the boards of Smock-alley in Young Mirabel, is credited at the time of which we are writing with the possession of "genuine humour and native comic talents," and proving afterwards a respectable acquisition to the Irish stage. This actor is subsequently found personating Justice Woodcock, Dick in the "Confederacy," Peacham, Sir Francis Wronghead, Bastard in "Lear," Angelo, Gibby, &c.

At Crow-street, the earlier part of Barry's season was profitable, through the novelty of the Venetians and rope-dancing, which he added to his strongest tragedies; but if his receipts were increased, his expenses had grown enormous, and the beginning of the end was fastly advancing. After a short while, when public curiosity had cooled somewhat, Barry, knowing that he could not compete with the musical performances at Smock-alley, resolved, nevertheless, in attacking his rivals by a stratagetic move on their own ground.

The Catley rage or mania was great in Dublin at the time; and, to stem the tide of public favour that was swelling towards the attractive actress at Smock-alley, Barry boldly advertised the "Beggars' Opera" at Crow-street, taking Captain Macheat for himself; Polly, Mrs. Dancer; and Lucy, by Mrs. Abington. The novelty provoked curiosity, and the latter led to some full houses which drew much money for the time. Although Barry's vocal abilities were not equal to the occasion or to the rendering of the airs of the piece in an effective manner, yet we are informed that his figure, manner, and acting of this intrepid highwayman made ample amends, and perhaps he altogether gave a portrait of this favourite character equal, if not superior, to any that ever attempted it since the original. He was "the fine, gay, bold-faced gentleman of the road." Mrs. Dancer's Polly, we are told, exhibited a delicacy, a pathos, and interesting colouring that few vocal performers were able to give it, and Mrs. Abington's Lucy was acknowledged a capital piece of acting. The cast of the rest of the opera ran thus:—Peacham, Macklin; Lockit, Sparks; Mat o' th' Mint, Mahon; Jenny Diver, Mrs. Mahon; Mrs. Peacham, Mrs. Kennedy. The receipts of the first night's performance brought £160, the second £125, the third night it fell to £50, the fourth it raised to £120, the fifth it was £97. In the course of the season the opera was performed several times with varying success. As was usual in the history of theatrical opposition in Dublin, the lucky hit at one theatre proving an unexpected

stroke to the rival manager of the other house, instant steps were taken to retaliate by a counter stroke. Mossop soon produced an attractive novelty by utilising the abilities of Miss Catley who had become the pet of the public in every character in which she appeared. She had heretofore drawn full houses in Polly, and why not by reversing her position and assuming the very opposite, the rakish and joyish Macheat. Mossop's counter stroke was highly successful, hundreds flocking to see Miss Catley as Captain Macheat. The "Beggars' Opera" proved another bone of contention at Smock-alley, and a source of dispute. The following was the cast:—Collins played Peacham; Wilder, Mat o' th' Mint; Mrs. Wilder, Lucy; Rider, Mrs. Slammakin; Mrs. Usher, Diana Trapes; and Miss Dunlop, Polly. About the middle of the season Mrs. Abington changed sides by returning to Smock-alley Theatre, and this led to a change in the characters of the play, by which she played Polly, and Signiora Spiletta, Lucy. The latter character proved rather a difficult task for the Italian lady, unacquainted almost as she was with the English language. We are told that she was obliged to apologise to the public before she performed it. "But favourites," observes Hitchcock, "often have a licence to be absurd, and in the present case Spiletta got more applause than if she had been a native." Indeed Hitchcock's remarks are only too true, and hold still as true in respect to many events in our own time as they did in his day. We have known several good native performers to be very shabbily and unceremoniously treated in their earlier years, but they lived down the indiscriminating criticism of a number of their countrymen, who were perforce obliged to receive them afterwards with the applause they merited. Audiences should not be too exacting, and should always be disposed to give a young actor or actress fair play. The same consideration an Irish audience will show to a foreigner labouring under difficulties should be shown to their own countrymen and women when inexperienced or found tripping, that is, if the performers otherwise evidence abilities and promise, and are not mistaken in their vocation.

The comic opera of the "Maid of the Mill" soon gave rise to another struggle between the managers of the two Dublin theatres. It was being performed with great eclat at Covent-garden Theatre, and Barry and Mossop considered it an object worthy of their immediate attention. There were some little difficulties in the way of its production. Though the words of the opera were published and equally free to both, the music was still in manuscript, and the sole property of the Covent-garden manager. In effecting the purchase of it, Barry fed himself with the belief that he had on this occasion completely triumphed over his rival Mossop. Events shortly proved that he was greatly mistaken, for instead of outwitting his antagonist he was outwitted by him. The great abilities of Signior Giordani soon lifted Mossop from his temporary dilemma. It appears to have been a well-established fact at the time and afterwards, though the parts were written out in Dublin for Barry, Signior Giordani sat down and composed anew the entire opera of the "Maid of the Mill" in full score, with all the accompaniments, in less than a fortnight. Further, we learn it was written out, studied, the scenes painted, and the opera brought out at Smock-alley two nights before Barry was able to accomplish the work at Crow-street. The opera was said to have pleased much, and the music to have done infinite credit to the genius of Giordani. "It was considered by every judge as a wonderful effort of the human mind, and to it were applied Pope's words—

'The sound becomes an echo to the sense.'"

The "Maid of the Mill" ran nine nights, besides benefits, at Smock-alley; but at Crow-street the contest was given up after the fifth performance.

\* See ante.

### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

On the 7th inst., at a meeting of the Institute, Mr. Charles Barry, President, in the chair, some new members were elected. Among the donations to the library were some drawings of Lord Burlington's, and the bye-laws of the newly-formed Institute of Canadian Architects, which have been modelled on those of the British Institute. A discussion ensued on a paper previously read by Mr. Locock Webb on the "Law of Easements," Prof. Hayter Lewis, Mr. T'Anson, Mr. Frederick Ouvry, Mr. Hiscocks, Mr. Jennings, Mr. Dawson, Mr. Chatfield Clarke and Professor Kerr, taking part. After a vote of thanks and a reply from Mr. Locock Webb, the President expressed a hope that the author of the paper would, on a future occasion, give a further paper on the subject, and that he would amplify his necessary brief remarks before they were printed in the "Transactions." Mr. Horace Jones, the City Architect, then read a paper "On the new Metropolitan Markets." A discussion will take place on the paper at a meeting to be held on the 21st, on which occasion a paper will be read by Mr. T'Anson "On the Architecture of Norway."

### ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

A CIRCULAR has been issued by the Institute convening a general meeting of the architects throughout Ireland at the Molesworth Hall, on the 22nd inst. The object put forward is "to consider a proposal for the constitution of the Institute as a Central Representative Body of the Profession on a new basis."

We have been requested to publish the following "Draft Resolutions," proposed to be submitted to the meeting on above date:—

That it is of paramount importance to the architectural profession in Ireland that a Central Representative Body be maintained, for effecting by joint counsel and common action the following objects, viz.:—The general advancement of architecture. The maintenance of the interests, status, and uniformity of practice of the profession. The maintenance of communications and friendly relations with other bodies associated for similar purposes.

That the constitution of the Royal Institute of the Architects of Ireland, as framed in 1839, has, from the changing circumstances of the time, ceased to fulfil the objects of such a Central Representative Body; but is capable, by a liberal reform and reconstruction of its bye-laws, of being converted into a practically efficient institution.

That the principal function of such re-constituted body should be the maintenance of a standing council to take cognizance *de die in diem* of all matters affecting the profession, to act as a board of reference in such matters, and to summon general meetings of the members, or others, from time to time, as occasion might require.

That the business of the Institute being carried on by honorary officers and at as moderate expense as is practicable, it should be one of its principal aims, by surplus of subscriptions (if any) and by donations, to create and augment a fund for such objects as the following, viz.:—The encouragement and promotion of the study of architecture, by offering prizes or otherwise. The contributing to museums, libraries, art schools, or other institutions affording advantages to students of architecture. Charitable or benevolent purposes connected with the profession.

That the re-constituted Institute should consist of members of one class only, embracing, under as few restrictions as are reasonable, all architects in recognised practice in Ireland, whether members of local societies or not.

That the Institute should reserve to itself the right to confer the honorary distinction of Fellowship under exceptional circumstances, as a mark of special recognition of eminent services rendered by an individual to the profession of architecture.

That the subscription of members be £1 per annum for qualification, with liberty to supplement same by further subscription or donation, in order to meet the objects as set forth in resolution.

That a committee be named to revise and re-draft the bye-laws of the Institute in accordance with the resolutions agreed to, and submit same to a further meeting, and take such measures as may be necessary to carry out the objects of this meeting.

We hope the members of the profession in Ireland will make an effort to attend in response to the invitation, and thereby manifest a desire not to be behind their brethren elsewhere in maintaining their professional status.

### ENIGMA.\*

#### I.

Faintly I'm breathed in the echoing wail  
Of the storm in its might as 'tis gathering o'er;  
But loudly I'm heard in the howl of the gale  
That's bearing destruction on sea and on shore.

In the tempest-tost wave, in the billows that roam,  
In the depths of their hollows dividing;  
In the waters, now lashed to ceaseless foam,  
There you 'll find me abiding.

In the wake of the bark, as she gallantly glides  
Through the trackless seas which surround her,  
And the whistle of the wind, as she cautiously bides  
On her path through the ocean around her.

#### II.

Enough of this,—my home must change  
To summer scenes and sunny hours;  
And if through meadowy slopes you range,  
You 'll find me in the midst of flowers.

Or, if you will, in the bowers, where twine  
A thousand blossoms 'mid sprays of green—  
Where gorgeous tints of their's combine  
To render it a fairy scene.

At morn, in the glittering, spangled heath,  
I'm seen in gems of dew upon the grass—  
Enough to make a queenly wreath  
Which wealth of worlds can ne'er surpass.

#### III.

The scene moves on. In power and majesty  
And royal style I'm found to dwell—  
A part and parcel of the panoply  
Which thronging crowds admire so well.

'Tis somewhere written—you know where—  
"Come like shadows, so depart";  
Of shadows here and shadows there  
'Tis plain enough I form a part.

And thus my share in royalty:  
No doubt I'm there—perhaps 'tis but in spirit;  
Its glittering state's unknown to me,  
And words of yours my only claim on it.

#### IV.

One more change. I trust it is no sin,  
Oft in the still small hours of night  
The wassail-bowl I'm found in.  
Ah, don't ignore me there; you'll have a fight.

For broils I hate, because I'm plunged in sorrow;  
And ever found without omission  
Where friend and friend bid good-morrow,  
Or some such goodly recognition.

I'll cease my theme, convinced I'm in the way;  
If you don't know me, I'm not to blame.  
But if you find yourself at all astray,  
To me and mine it's all the same.

### KILMACDUAGH CATHEDRAL.

THIS cathedral (which is also the parish church of Gort, Co. Galway) has been re-opened after additions and alterations. Amongst the additions may be mentioned a new chancel with cut stone buttresses surmounted by spirelets, in keeping with the old structure. The graveyard has been neatly laid out and planted, and gravelled walks formed. The changes in the interior are most marked. The old square pews have been replaced by pitch-pine benches having chastely designed ends. The pulpit, prayer-desk, altar table, and rails were from designs furnished by Messrs. Jones and Willis, of Birmingham and London. The same firm also supplied the lectern, standards, pulpit lights, and coronæ, all of polished brass. Several articles of the fittings were presented by members of the congregation. The old windows and frames have been removed, and new frames with cathedral rolled glass in geometric patterns, placed in the transepts, while the same glass in quarries fills the nave and other windows. The east window in chancel deserves especial notice, being of rich antique stained glass with subjects in each of the three lights—the first representing

the Baptism of our Lord, the second the Last Supper, and the third the Raising of the Widow's Son at Nain. This window is given by Mrs. Lahiff, Ballyturin House, and is erected "in loving memory of an only son." It was supplied by Messrs. Sibthorpe and Son, Cork Hill, who supplied also the cathedral glass before referred to. This firm has also heated the church with three-inch hot water pipes in three rows, making the work a complete success, and adding much to the comfort of the congregation. The organ gallery over entrance door has been taken away, and what was formerly the chancel has been converted into a choir fitted with stalls of pitch pine. At the south side of this an organ chamber has been constructed, in which a beautiful new organ, built specially by Messrs. Browne and Son, of Dublin, has been placed. This firm has given all concerned the greatest satisfaction, the instrument being artistically decorated in a case of mediæval design, the tone singularly rich and mellow, combining great power and sweetness, while all the recent mechanical appliances have been introduced. In conclusion it is sufficient to say that this church has been made "decent and in order,"—something approaching to what the ancient cathedral of Kilmacduagh should be. The cost has been about £1,100.

### AGHADERG PARISH CHURCH, LOUGHBRICKLAND, COUNTY DOWN.

AFTER undergoing extensive improvements and enlargement, this old parish church has been re-opened for divine service. The various works were designed by Mr. Wm. J. Watson, of Newry, architect, and under his direction have been executed in a creditable manner by Messrs. Whelan and Watson, of Newry, contractors. Originally the old fabric consisted of a nave, built late in the seventeenth century, and a tower, surmounted by a handsome spire of later date. Before being altered, the nave consisted simply of massive stone walls, and a heavy plastered ceiling. Amongst the recent improvements is the addition of a new chancel built of local blue stone, jointed in cement, having lancet windows and buttresses at each side, with freestone copings, barge-courses and dressings, and ornamental slate roof, crested with ornamental ridge tiles. In the eastern gable of chancel has been placed, with good effect, the fine tracery window, containing stained glass, which formerly stood in east end of nave. Internally, the nave and chancel are divided by a richly-moulded arch which is supported by carved trusses. The spaces in north and south walls between chancel arch and side windows are filled in with stone sedilias, having canopies of delicate tracery and hood mouldings, supported by marble columns and foliated caps. Cusped lancet windows at sides and quatrefoil in gable are filled in with stained glass, representing figures from Holy Scripture. The chancel roof is of novel and effective design, being simply formed of stop chamfered pitch pine rafters and struts, covered on upper edges with pine boarding. The floor of chancel is raised several steps in height above the nave floor, and is covered with encaustic tiles of chaste design and colours, from Minton's celebrated manufactory. At the top of the steps, and enclosing the chancel, is an oak rail on brass standards. Of the many improvements which have been carried out in the church, that which caused the most anxious thought was the internal alteration of the nave roof, without interfering with the existing rafters or slating. Originally, as we have said above, the nave was internally covered by a heavy plastered ceiling, concealing large, rough principals which supported the roof. Ceiling and principals have been entirely removed, and replaced (without disturbing the slate covering and the old rafters) by an open pitch pine timber roof, having moulded purlins, supported on framed and moulded arched and cusped principals, resting upon moulded freestone corbels.

\* Written for the IRISH BUILDER.

New bench ends have been fitted up in place of the former pew framings and doors. The pulpit and reading desk have been altered and improved, and the space between chancel arch and front of pews has been laid with red and black tiles, upon which stands a beautiful font, from the works of Messrs. Sibthorpe and Son, of Great Brunswick-street, the gift of the Misses Lefroy. The outlay, which amounts to about £600, has been subscribed by the Very Rev. Dean of Dromore and Mrs. Lefroy, and their personal friends. As Aghaderg Church now stands, it is, perhaps, one of the most complete old parish churches in the North of Ireland.

#### THE DRUMCONDRA, GLASNEVIN, AND CLONLIFFE TOWNSHIP.

On Saturday, a meeting of those interested in the promotion of a bill with the object of forming above districts into a township, took place at the Court House, Drumcondra.

Lord JAMES W. BUTLER in the chair. The chairman remarked that there was great room for improvement in the locality. Dr. Norwood had attended for the purpose of explaining to them how the object could be attained without any large addition to their taxation. After hearing that gentleman, it would be for those interested to decide as to what steps they would take for the purpose of supporting the gentlemen who had promoted the movement.

Dr. Norwood proceeded to explain the provisions of the proposed bill. The district (he said) was rich with old associations, and during the past century could boast of the residences of noblemen and statesmen, poets, and great scholars. In the course of time, however, the tide of fashion was driven to the southern districts of the city. There had been a long-continued law-suit—*Gardiner v. Blessington*—which prevented the letting of the ground for building purposes, and nothing could be done until the case was settled. Turnpikes also, kept the north side in the back ground for many years. Their roads were at present in a bad condition. The county Dublin was the only one in Ireland in which the grand jury could not appoint assistants. The total value of the districts amounted to £12,238, which sum, at 2s. in the pound, would produce £1,239. He hoped they would accept the bill as now laid before them.

A discussion having ensued as to the possibility of the maximum of taxation exceeding 3s. in the pound, and assurance given that such could not be the case, the meeting separated.

#### "A TOO RARE VOICE."

THE following thoughtful, truthful, and appreciative notice of our veteran and distinguished native *litterateur*, Samuel Ferguson, has appeared in a transatlantic contemporary. Although it contains some political allusions outside the field of our advocacy, its other merits apart claim a recognition at our hands. What is said of Mr. Ferguson's poetical faculties and peculiar and original lyrical power is said well:—

In the last number of *Blackwood's Magazine* is a piece of verse signed "Samuel Ferguson." It is not an unknown name, but we fancy that, appended to a poem dated "1877," it seems almost as strange as if it were signed "Christopher North" himself. In the last volume of the collection of the "Noctes Ambrosianæ," Christopher North recites admirably that noble and stirring poem, "The Forging of the Anchor." The manly vigor of the lines, the rough and powerful lyrical swing, the vivid fire and intensity of the poem, took possession of the popular mind, and to-day it has a favored place in the books of school reading and declamation. That sort of objective passion and simplicity of lyrical motive is not the fashion now-a-days in poetry, which rather inclines to the subtle and contemplative; but in a certain joyous fire and vividness "The Forging of the Anchor" is superior to Schiller's "Casting of the Bell," or Longfellow's "Building of the Ship," and it will always be a treasure of English verse with Campbell's "Ye Mariners of England," and

Allan Cunningham's "A Wet Sheet and a Flowing Sea." There is a manly spirit to it which Tennyson cannot elaborate with all his skill in words, nor Swinburn reach with his perfected intensity of passion. It is the right old English spirit, and one day its merits will, we think, be ranked higher in critical esteem than they are now. Beyond this Mr. Ferguson's name is but little known to the general reader of English literature. He is an Irishman, and somehow that unjustifiable neglect which has fallen upon some of the best of Irish writers, has fallen upon him even more completely than others, who have a native if not a general reading from religious or race partiality. Mr. Ferguson is a Protestant and a Tory, and therefore is not included in those reputations which may be termed exclusively Irish, such as Carleton's, Gerald Griffin's, and John Banim's. But there are elderly scholars of a humorous and epicurean turn, who take perpetual delight in reading the most amusing and rollicking of brochures, "Father Tom and the Pope," and chuckle over the burlesque of logic, the fatuous Latinity and the irresistible farce that make it the finest caricature of its kind since Rabelais. Those fond scholars know that the author of "Father Tom and the Pope" is Samuel Ferguson, although he has never owned to the impeachment. Farther than that, the few students who have been attracted to the study of the ancient Irish language, which is richer in its treasures than the Gaelic remains of Scotland, discover that one of the most accomplished of its scholars and almost the only one who has translated its verse into anything like the sweetness and power of the original, is Samuel Ferguson. But, as we have said, to the general public he is almost the shadow of a name, and his appearance as the living author of such a piece of verse as appears in *Blackwood's Magazine* is a surprise. For this neglect, his modesty and the fact that his productions have been but the infrequent relaxations of a busy professional life as a lawyer have had much to do, but we have hopes that his reputation will receive justice at some time, both from his countrymen and the world.

The new poem which again reminds the English world of him, is entitled "The Widow's Cloak," and refers to Queen Victoria, the kindly woman of her subjects' love, and the mighty mistress of a great empire. It breathes the old-fashioned English defiance at the threat of war. The critic may call it rough and archaic, and the American reader may have little sympathy with its exaggerated loyalty or its boastfulness. But it has the true ring of the lyrical trumpet, which stirs the pulses of the heart, and is one of the rarest of literary gifts, which no art can supply. It is the voice of that manly England which we admire if we do not love.

Victoria's sheltering mantle is over India spread;  
Who dare to touch the garment's hem, look out for men in red:  
Look out for gun and tumbrel a-crash through mound and hedge,  
For shot and shell and Sheffield shear—  
Steel, point and edge.  
The fires are banked; in port and road the seaman-heart swells large;  
The horses from the Irish fields are clamping for the charge;  
Stand back! keep off! the changing cheek of Peace has lost its smile,  
And grave her eyes, and grave her prayer,  
To heaven the while:—  
Maker, Preserver of Mankind, and Saviour that Thou art,  
Assuage the rage of wrathful men; abate their haughty heart;  
Or, if not so Thy holy will—suppress the idle sigh,  
And God Sabaoth be the name  
We know Thee by!"

#### THE PULSOMETER.

MESSRS. Hodgkin, Neuhaus, and Co., London, the patentees of the pump which they styled as above, have transferred their business to a Limited Liability Company under the name and title of "THE PULSOMETER ENGINEERING COMPANY." We have before us some recent testimonials received by the firm, all of which certify that a considerable saving has been effected by the use of "The Pulsometer." They are made to any size, and are capable of being worked in any position. For address see advertisement.

#### HOME AND FOREIGN NOTES.

THE CITY ACCOUNTS.—Mr. G. W. Finlay will proceed on the 4th prox., to audit the City Accounts for the year ending August, 1877.

HIDDEN TREASURE.—A rather singular discovery was made in Yonghal within the past ten days. It appears that a mason named Brien had been employed in repairing an old uninhabited house in that ancient town, and having displaced a brick in one of the walls, found a purse containing 458 sovereigns. He handed the purse to the owner

of the house, which formerly was inhabited by his mother. Heavily, the owner of the house, communicated the intelligence to his sister, and she thereupon claimed the "find" as hers by right. After some law, the matter was settled between the parties by "a fair divide."

THE LATE MR. DENIS BYRNE.—On the 11th inst., the above-named died after a brief illness, at the age of 63. He filled for over sixteen years the office of secretary to the ancient Society of the Incorporated Brick and Stone Layers of this city. The deceased was much esteemed by his fellow-craftsmen as well as by all the building trades. He had much influence in the society, numbering over 500 members, and his moderation and good sense, although ever directed to promoting the interests of his fellows, were, at the same time, averse to any action on the part of artisans which might tend vexatiously to interfere with the interests of employers.

#### IN MEMORIAM.

"PUBLIC HEALTH  
Ceased its existence with the Old Year.

The Advocates  
OF  
SANITARY SCIENCE  
AND PROGRESS  
Have not responded in sufficient numbers  
to warrant its continuance."

Athenæum.  
"Its life was . . . . ."  
Brief.

WHO IS TO PAY?—By the rejection of the Dublin Improvement Act Amendment Bill, introduced by the Corporation last year, the Corporation have become liable for a charge of £1,500—the Parliamentary and other costs incurred in relation to it. The opinion of counsel has been obtained that the amount cannot legally be paid out of the rates, the greater part of the bill travelling outside the limits of the powers conferred on the Corporation by the Towns Improvement Clauses Act, 1847. The Corporation, under these circumstances, appointed a deputation yesterday to proceed to London to wait on the Chief Secretary with the view of enlisting his aid on their behalf. The Corporation adopted the report of the Artisans' and Labourers' Dwellings Committee, recommending the completion of the arrangements to borrow £20,000 for the purposes of the scheme.

THE DEPUTY SURVEYOR.—The "Military Journal of Ireland" devotes a whole *leading* column to shewing up the shortcomings of our new City official who has been "quartered" on us for a short period. If this game of war is to continue, it is certain that this representative of municipal tactics will be "cashiered" on next presenting his "little bill" for services rendered in promoting the improvement of the city (including the removal of mud and shop sweepings). It will do no harm to repeat the question which forms the key-note of the article referred to. "WHAT VISIBLE IMPROVEMENT HAS TAKEN PLACE IN THE CONDITION OF DUBLIN STREETS SINCE THE APPOINTMENT OF THE STREET [DEPUTY] SURVEYOR?"—None, none!!

OFFICIAL NEGLECT.—At a meeting of the Corporation yesterday, Mr. E. D. Gray moved a resolution to the effect that the town clerk, the two law agents, the treasurer, the accountant, and Committee No. 1 be called on to report to the next meeting the cause of their non-compliance with the order of Council of 27th April last, that they should present annual reports to the Council, showing the business done during the year, indicating what is contemplated during the ensuing year, and giving a balance-sheet of the assets and liabilities of each department; and that the town clerk should report specially and separately the reason of his not requiring such regulation to be carried out. It had become a perfect farce for 60 gentlemen to be coming to that Council and devoting their time to the consideration of municipal affairs if their officials treated their orders with contempt. They should understand whether their officials or that Council were to be masters. Mr. Mulligan seconded the motion. Sir James Mackey wished to mention as an instance of this neglect, that a long time ago the Prefect of the Seine wrote to the Town Clerk asking as a favour that, in consequence of the destruction of the archives of Paris during the siege, he might be supplied with a report of the proceedings of the Dublin Corporation, and to his (Sir James Mackey's) knowledge, that letter had never been replied to. The Prefect had now written to the French Consul in Dublin to apply to the Corporation about the matter. He could not help saying that he was ashamed to think such a state of things should be allowed to exist in any body of business men, and he was sure that if the Council had been aware of it they would not have permitted such an irregularity. The resolution was unanimously adopted.

**SANITARY.**—On Friday last, the Public Health Committee granted authority for the summoning of 118 persons, for offences against the sanitary law. It was reported that the disinfecting chamber had, during the previous week, been used by five persons, and that forty-three articles had been disinfected. Ten dwellings also had undergone the process of disinfection. A report from the City Engineer on the state of the public sewers, was considered.

**WEIGHTS AND MEASURES, DUBLIN.**—At a meeting of the Corporation a letter was received from the Town Clerk stating that he had been served with a copy of a conditional order for a *mandamus* at the suit of Mr. John M'Evo to compel the Corporation to refund and pay over to the City Treasurer all moneys received by George Edwards and Ephraim Webb, for fees for stamping and adjusting weights and measures in Dublin. The suit was at the instance of Mr. M'Evo against the Lord Mayor and Messrs. Webb and Edwards as his deputies, as clerk of the markets. A communication was also received from Mr. J. J. Lalor, stating that Committee No. 2, at a meeting held on the 9th inst., had before them a letter from Mr. George Edwards, Inspector of Weights and Measures, together with the writ of *mandamus*, and that an order was made by the committee that the documents be sent to the Town Clerk, in order to bring the matter before the council. After considerable discussion and interchange of civilities, it was resolved that the matter be referred to Mr. MacSheehy, with instructions to take the necessary steps to defend the action.

**THE REPORTS OF "No. 3."**—We take the following from yesterday's *Daily Express*—one of the journals that put in its "little bill," as alluded to in a letter in our last issue:—"The law and the lease, the financial and the grand jury departments of the Corporation are departments of very great importance, and the ratepayers would, no doubt, be glad to know what is the business that is transacted in them by Committee No. 3 of the Municipal Council, for it is in the committees that the real work of the Corporation is done, whether it be done well or ill. The open meetings of the council are generally *oratorical affairs*, and too often deal with subjects considerably higher than pounds, shillings, and pence. We receive from time to time official reports of the work of the committees, giving more or less information. The official reports of Committee No. 3 are generally of the latter kind, valuable only so far as giving the opportunity or informing the public *what members attended*, and at *what hour they departed*, having transacted the business—it is a regular formula—of the law and the lease, the finance and grand jury departments. That is to say, these reports give practically no information at all. It would be just as interesting to hear that the committee told the story of the wig and the wag and the long leather bag, and to learn every week that they transacted the business of the law and the lease, the finance and grand jury departments."!!!

**THE SWEEPING OF FOOTWAYS.**—A number of persons appeared on Saturday on summonses, for not keeping clean the footways in front of their houses. In many of the cases it appeared that the footways had been swept at an early period of the day. The magistrate, Mr. C. J. O'Donel, said that, having regard to the state in which the streets were kept by the Corporation, he would not impose a fine in cases where it appeared that the footways had been swept once in the day. In the case of a householder in Fitzgibbon-street, it was stated that the footway was composed of gravel, and it was useless to sweep it. Mr. O'Donel was of a similar opinion—to sweep the gravel would only make mud. *The law was in a nice state.* He should allow the case to stand. Mr. Anderson, who prosecuted in the several cases, asked Mr. O'Donel what decision he would make in a case which had been adjourned in which the defendant had failed to sweep the footway in front of his house on Sunday morning. Mr. O'Donel said he would not then give his decision, but he was of opinion that the Dublin Improvement Act, adopting the Towns Improvement clauses, had impliedly repealed the Police Act, which required the footways to be kept clean at all times. By the Dublin Improvement Act, householders were only required to have the footways swept before eight o'clock every morning, except Sunday. Mr. Anderson contended that the provisions of the Police Act were still in force, and if people did not wish to sweep their footways on Sunday morning, they could have it done late on Saturday night. Mr. O'Donel was of opinion that all that was now required was what he had stated, and that the duty of any additional sweeping that might be required to keep the footways clean fell on the Corporation. He would give his decision on Saturday next, and, if Mr. Anderson desired it, would state a case.

TO CORRESPONDENTS.

**SANITAS**—The articles and reviews in the journal mentioned were written by medical gentlemen resident in this city. You must identify them yourself.  
C. E. (Belfast).—Yes, if not too long.  
A BUILDER (Kingstown).—You had better consult a respectable solicitor. The question is full of difficulties.  
J. B.—We must decline to mention the name of any particular practitioner. A little inquiry among friends will enable you probably to make a good selection.  
RECEIVED.—P. R. S.—M. A.—D. C.—M.R.I.A.—Artisan.—E. C.—Another Ratepayer (under consideration).—W. R.—R. E.—J. H.—T. F., Over Darwen, &c.

NOTICE.

*We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.*

*Correspondents should send their names and addresses, not necessarily for publication.*

*It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.*

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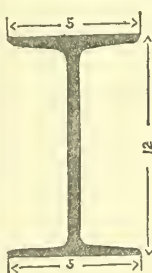
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## Contents.

|  | Page |
|--|------|
| THE CANCER OF THE BUILDING TRADE .. ..   | 33   |
| Notes on the Rise and Progress of Printing and Publish-<br>ing in Ireland—Fifteenth Part .. .. | 34   |
| The Royal Irish Academy .. ..  | 36   |
| The Architectural Association, London .. ..  | 36   |
| Greek and Roman Art—Their Connexion with the<br>Teaching of the Classics.—Lecture IV. .. ..    | 37   |
| Notes on the Early History of the Irish Stage .. ..  | 38   |
| The Institution of Civil Engineers, London .. ..   | 41   |
| Ancient Dublin Monuments and Municipal Records .. ..   | 41   |
| Adversaria Hibernica—Literary and Technical .. ..  | 42   |
| Drumcondra and Glasnevin Drainage Scheme .. ..   | 43   |
| The Dynamo-Electric Apparatus .. ..  | 44   |
| Law—Cavanagh v. Gabbett .. ..  | 44   |
| Public Health (Ireland) Bill .. ..   | 45   |
| ▲ "Jerry" Builder sent for Trial .. ..   | 45   |
| The late Dr. John Doran, F.S.A. .. ..  | 46   |
| Royal Institute of British Architects .. ..  | 46   |
| Enigma .. ..   | 46   |
| A Solution of the Sewage Difficulty .. ..  | 46   |
| The Recent Conference of Irish Architects .. ..  | 46   |
| Books Received .. ..   | 47   |
| Home and Foreign Notes .. ..   | 47   |
| To Correspondents .. ..  | 47   |

## THE IRISH BUILDER.

VOL. XX.—No. 435.

THE CANCER OF THE BUILDING  
TRADE.

HE last half-century has witnessed the uprise of a cancer in the building trade of the three kingdoms, which has, within the last few years, assumed enormous proportions.

Up till a quarter of a century ago the evil was somewhat limited in its dimensions; but since that period till the present time the abuses in connection with speculative building have become widespread and gigantic. In the sister kingdom nefarious building malpractices were in operation for several years before the abuse attracted much notice in this country; but the facilities afforded by railway travelling, and the passing over of building workmen from Ireland to England, and their returning home in slack seasons, led to a more general knowledge among builders and workmen here of the scope of speculative or what is now known as "Jerry" building. Ambitious and unprincipled workmen, who saved a few pounds, were only too anxious to become builders, or employers of labour, particularly as the methods had become easy, and that little capital was required for commencing operations.

Building land in the Dublin suburbs was not as easily to be secured by speculators with little or no capital in hand as it was in the outlying districts of the London metropolis and the suburbs of other large cities and towns across the Channel. Hence we find that the earliest specimens of "Jerry" workmanship in this capital were mostly confined to jobbing transactions, alterations, and repairs. If we are not greatly astray in our impressions and experiences of the Irish building trade, extending over many years, it will be found that the largest proportion of the "shop-front architecture" of the last twenty-five years, and the building additions and "improvements" in connection, belong

to the slap-dash and slopwork kind, and consequently this class of workmanship and materials may to a great extent be termed "Jerry" building. There are degrees of inferiority or badness in workmanship and materials; and it will be found in this capital that, while some work of a strictly speculative kind is tolerable or passable, other work will be found positively bad—*jeune* in design and "scamped" in execution. The respectable Dublin architect and builder of to-day need scarcely be told what constitutes slopwork or slap-dash work in the building branches,—in fact it is nothing more than what is understood by the term "scamped" work in England; and this is the distinguishing characteristic of all low, unprincipled, speculative, or "Jerry" building.

The evils and abuses in connection with speculative building are at present to some extent controlled in England by building acts and bye-laws of certain local boards in various localities, and in the London metropolis by the Building Act of the Metropolitan Board of Works. Within the metropolitan radius it is the district surveyors of the Metropolitan Board of Works who have to do with the supervision of buildings, the parish surveyor's duty being confined to matters of drainage, road reparation, obstructions, and certain kinds of improvements. In the strictly sanitary aspect of the case, the parish surveyor and the medical officer of health of the parish can and do act together in seeing that certain requirements are fulfilled in connection with drainage and dwellings. On the district surveyors, however, in the metropolis of London devolve the duty of seeing whether the foundations of new buildings are properly laid, whether the walls are of the required thickness, the rooms of the proper height, and the mortar materials of passable quality. These and other duties, however, are too often neglected by the Metropolitan Board surveyors; and unless some vigilant ratepayers or the local Press wake them up by bringing some flagrant case of "Jerry" "scamping" under their notice, the chances are that the evil doers will escape detection, finish their run-up houses, and sell them off, while the mortar and plaster are still undried upon the walls, as eligible investments for the unwary purchasers. The houses of this class are literally run up, and "built to sell." In fact, they are little less than man-traps; and, though they are not designedly built to kill, they perform that work sooner or later with a moral certainty that admits no doubt. It happens, however, public indignation is occasionally aroused by houses dropping down of the class we are noticing.

Two cases of house-falling occurred in London within the last few days, resulting in the death of a man in each instance. The house-falling case at the Haymarket, however, stands altogether on a different footing from that which occurred at Hackney, and the buildings had little in common. The former were two large stone-fronted structures apparently well designed and well built, and, in their giving away, dragged down an old structure alongside, and in the collapsing of the latter the owner was killed. An investigation is still proceeding respecting the causes which led to the falling of the Haymarket houses, and probably it will be found that they fell in consequence of some defect in the foundation or other structural defects,

altogether apart from "scamped" workmanship.

In the Hackney case it was made clear, after a painstaking inquiry, that the speculative run-up houses exhibited bad workmanship and materials. On the evidence of the Metropolitan Board district surveyor, and of an independent surveyor who was called in by the advice of the coroner, it was satisfactorily proved that the houses were wretchedly built, and that the mortar and workmanship were vile. A warning had been given to the speculative builder of the houses in Hackney, that if he did not put in better materials and amend some of the work he had already done, he might probably find himself before the magistrates, or shortly in the criminal court at the Old Bailey. The local press in the district appears also to have drawn attention to the character of the houses that were being built on the same sites. The warning of the district surveyor was realised in the Hackney case—the walls of one of the houses tumbled, a workman was killed, and the jury brought in a verdict of manslaughter against the builder. The evidence showed that the houses in Hackney were built like the majority of other houses of the class by a system of sub-contract, the builder finding the materials and a sub-contractor finding the labour according to a stated price per rod of brickwork or per house. The builder was a "plumber and decorator," and he openly told the jury that he knew nothing practically about building or building materials, did not know good mortar from bad mortar, &c., leaving all in the hands of the sub-contractor. Up to the date at which the house fell, two sub-contractors had worked at the block of houses, and had retired owing to disputes with the builder; and the last sub-contractor, it was alleged, overdrew his account. It remains to be seen whether a jury in the criminal courts will confirm the finding of the Hackney coroner's jury. Doubtless the fatal incident, and even the finding of the coroner's jury will effect much good and lead to more caution, though we are not at all sanguine that the building cancer will be stamped out speedily. It will, we fear, need many more cases of death through "Jerry" houses falling, before public opinion is thoroughly aroused and stringent acts are passed and enforced.

It is well to inform our readers, although we believe we have already informed them, that the Metropolitan Board of Works of London have already before the present session of Parliament an amended Building Act. Their present act is very defective in parts, and, owing to these defects, many scamping speculative builders escape the punishment they richly merit for their flagrant offences.

About the same time as the investigation was going on in Hackney, a builder was brought before the magistrates at Edmonton, which is just outside the metropolitan radius, for using improper mortar materials in the building of his houses. This case illustrates the anomalies and conflicts of local board and Metropolitan Board jurisdiction. The local or parish board in this case prosecuted the builder; while in Hackney, the local board, being within the metropolitan area, are powerless to prosecute in cases of violation of the building act in respect to bad building and materials—the duty, as we have already said, devolving upon the Metropolitan Board of Works. The defendant builder at Edmonton took a preliminary objection that he was not responsible, as the ground had been let to

several builders, and he was not connected with the work. The clerk of the local board stated, however, that the plans for the houses had been submitted to the board, and he was, therefore, answerable for them. The chairman of the board concurred, and the builder was properly fined for using in the erection of the building "road scrapings instead of mortar." The builder endeavoured to excuse himself by stating that he had taken every precaution, but while his foreman was away the men had made use of other materials. We do not know whether there was any sub-contract in this case or not, but, even if there were a sub-contract, it is only proper to hold the principal builder responsible. The person who supplies the materials and undertakes the contract is the man who should be held liable. It is his duty to see that the sub-contractor is executing the work properly; but, we regret to say, in many cases that have come under our observation, the contractor does not trouble his mind about the execution of the sub-contractor, or the character of the workmen employed by the latter; the chief object of the speculating "Jerry" is to build at the cheapest possible rate, supplying the worst materials, and paying the lowest rate of wages.

Turning our thoughts from the sister capital to our own, we find much here also to condemn. In one or two of our latest visits to the northern and southern suburbs of Dublin, we observed many houses of a speculative character, of bad materials and workmanship. We do not care to particularly specify the exact localities or the streets. We are not against cheap or economical dwellings designed for the use of those with limited incomes, or for the working classes; we only protest against the erection of buildings "cheap and nasty," bad in workmanship and materials, and positively unhealthy, because of every sanitary requirement being almost absent. We know of new as well as old houses having no drainage, and in other instances a make-believe drainage, bad arrangements in respect to rooms, insufficiency of height, and bad ventilation.

Let us state plainly and openly to the building and British and Irish world, that at present in Dublin there is scarcely aught approaching supervision over the erection of dwellings, or in respect to house drainage. Neither the Corporation nor the townships, through their officials, exercise any regular control over building operations in city or suburbs, and unprincipled builders are allowed to do almost what they like. Even the sanitary acts—which in many cases are capable, if enforced, of putting down a number of cognate abuses—are ignored; and, when occasionally enforced, the duty is performed in the most perfunctory manner.

One of our great wants in this city is a stringent Building Act, and for this we have been constantly calling for a number of years. As in many of the local boards of England, so in this country, and particularly in the metropolis, some of the greatest evil doers are to be found as sitting representatives in our Corporation and other boards, and we are of opinion, if reform comes soon, or comes at all, it will be from without and not from within.

Here as well as in the London suburbs, the largest number of our domestic buildings are run-up without supervision of any architect, and drawings, when there are any regular ones, are made by architects, in many instances, who

are only architects by courtesy, or in name. Now we will not attempt to deny that in this city, in the past and even in the present, there are houses erected by respectable builders, and that some of these are well built, exhibiting good materials and workmanship. On examination most of these houses will be found to be designed after a pattern. Externally they may differ, but in internal arrangements they are "one sack one sample," to use a common phrase, and where a new departure is to be seen, the modification is small, and not always for the better. In the absence of a stringent building act, respectable architects could perform useful service to their profession and the public health, by compelling builders not only to use proper materials, but by making it incumbent upon them to build as if a good building act was really in force. Architects would, in doing this needful duty, not only serve the interests of their clients, but they would serve their own and the public interests, and pave the way to a long-desired building reform.

We have in what we have written touched little more than the fringe of the subject, but we promise to return again to the consideration of other glaring abuses connected with the practices of present-day speculative builders and building, and kindred abuses.

#### NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

##### FIFTEENTH PART.

HAD we concluded our "Notes" with our last paper, we would have furnished sufficient illustrations for enabling the reader to be fairly informed of the history of the rise and progress of printing and publishing in this country, the kindred trades and arts, the principal representatives of these, and of several of the most distinguished literary men and public and other characters more or less associated with the trades and professions passed under review. We have not only brought down the reader to the close of the eighteenth century, but we have occasionally, while treating of certain prominent representatives, followed them and their works a good way into the present century, and in some instances to the close of their literary careers. Journals and magazines and printing and publishing firms, however, often outlast by long years their founders; and the nineteenth century in Dublin witnessed for several years the flourishing prosperity of some houses, and subsequently their decline—publishing and printing firms which dated a good way back into the previous century.

It is not our purpose at present to treat in detail of the Irish printing and publishing trade of this century—its course, its ups and downs,—or afford a full list of its representatives, or enumerate the chief works, newspapers, and periodicals published since 1800. We repeat again we are not writing a history, and our notes have already swelled to a dimension which we never calculated when we took up our pen last summer, on the occasion of the Caxton Celebration. The history of the printing and publishing trade in Ireland during the present century, as a whole, would need a volume to itself. Such a volume may one day be forthcoming; but the writer of these papers has not the time, had he the abilities; and certainly, as he is now circumstanced, he has not the facilities or the materials to his hands to attempt the laborious task.

It cannot be amiss to inform the reader and all interested in the subject of these notes, that the fourteen parts or papers that have already appeared, extending over a period of seven months, were written *currente calamo* some hundreds of miles distant from

the capital, without the aid of a public library or any ready reference; and the writer had often to trust to his own memory and recollection of former readings, and rely to a large extent upon his own acquired knowledge of the history and literature of his country in drawing his conclusions. If he would offer any excuse at all for his shortcomings, or if he should have made any serious mistakes (which he doubts), an apology perhaps will be found in what he has just stated; and also that it is a fact that, circumstanced as he was, most of his papers, owing to the exigencies of publication and time, were published to the world without the author having had an opportunity of seeing a proof or a revise.

Having said this much about ourselves personally, we will proceed as rapidly as our subject admits towards our conclusion, touching but lightly men and matters for the remainder of our way.

Among the most extensive booksellers and publishers during the earlier years of the present century in Dublin were the firm of Messrs. Gilbert and Hodges, in Dame-street. This firm in after years was represented in the persons of Messrs. Hodges and Smith, of Grafton-street, and it still survives as a publishing and bookselling house of respectability under the name of Hodges, Foster, and Figgis. During the era of the Irish Parliament, William Gilbert, the founder of the house, was established in the bookselling business at 26 South Great George's-street, and his speciality for some years was medical works. The firm of Hodges and Smith for several years did a large and lucrative business, and, besides being publishers of books printed at the University Press, they issued numerous general and educational works, and many in relation to Ireland in various fields. Many political pamphlets issued from time to time from the house of Hodges and Smith, in Grafton-street, and some written by lawyers, judges, and churchmen, who would not now like to acknowledge their authorship. This publishing house always turned out its works in a creditable manner, and in all branches—paper, printing, binding, &c.—its publications were equal to any produced in the sister capital.

Towards the close of the last century Daniel Graisberry was established as a printer at 10 Back-lane. Subsequently the trade was carried on in partnership under the name of Graisberry and Campbell, and continued several years into the present century. This house appears to have done a good printing business for several years. Some of the works and statistical surveys issued under the auspices of the Royal Dublin Society were printed by this firm; and we have come across pamphlets on public questions in the issue of which the firm were, of course, printers and publishers.

John Chambers, 5 Upper Abbey-street, was a noted Dublin printer, and the house had its rise in the last century. There is a Dublin edition of Cervante's "Don Quixote," in four volumes, with plates, issued by Chambers in 1796. In the second decade of the present century the firm was known as Chambers, Halligan, and Chambers, printers, at 4 in the same street. The house was still represented in name for a few years after 1840 in Abbey-street, and principally known as John Chambers, account-book manufacturer, printer, and stationer. Later again the name continued as a representative of the above branches at establishments at the corner of Capel-street, Essex Bridge, and in Dame-street, at which latter place the trade continues.

The celebrated, or should we write the notorious, Luke White, a wealthy bookseller, was established in business at 86 Dame-street, in 1786. Some years afterwards, before the close of the century, he is found at 42 Dawson-street as a wholesale bookseller. Luke White was certainly a public character in his day, and from a very humble origin amassed a large fortune. He was nicknamed the "Flying Stationer," a name that stuck to him through life, for nicknames in Ireland

are "racy of the soil." If Luke hawked books and prints in his early days, as stated, he lived to partly rule the bookselling trade afterwards. Like other booksellers of note, he dabbled in the lottery speculations of his time. In a volume sold recently at the auction of Dr. Thomas Willis's library was Luke White's catalogue of books for 1777, and advertisements for "Irish State Lotteries, 1785," and bound with it Isaac Corry's (Chancellor of Exchequer for Ireland) Speech on Luke White's Petition to Parliament, respecting the Irish Loan of 1800. The above was printed by John Rea, Exchequer-street, Dublin, 1800, 8vo., 78 pages. The following is a short extract from Corry's speech on White's petition:—"From his own letter (White's), written prior to the meeting of Parliament, he was at that period what he was from the outset of his contract, as I have more than once had occasion to observe, a surprised, disabled, and bankrupt contractor. I apply the term to his character of contractor, and I say a bankrupt contractor." In Dr. Willis's volume there was inserted a biographical sketch of White, but we cannot enter into details. Woodlands, known in the last century as Luttrellstown, was purchased by Luke White as his residential seat. It was a truly magnificent demense, and White, about the commencement of the century and for some years afterwards, carried out considerable improvements there. He added to the plantations, and a fine lake near the Castle was laid dry in 1800, and upwards of 60,000 loads of material or manure raised from its bottom, which, when mixed with a portion of lime, was spread over the lands. The castle at Woodlands, though the chief part of it was erected in the last twenty years of the eighteenth century, a portion of it is nearly six hundred years old. One of the chambers in the castle is called "King John's Chamber," and it is supposed he slept in it when he was in Ireland in 1210. Woodlands, when Luttrellstown, was the seat of the Earl of Carhampton. At the commencement of the present century there was a gigantic elm tree, the glory of old Luttrellstown, which was broken off within 10 ft. of the ground in the great storm of 1802. Luke White felt much grieved at the loss, and concerning the affair, a writer of the time observed: "Much to the honour of Mr. White, he intends to preserve this precious stump, which it is probable will shoot out again, and continue for many years to add to the beauties of its native spot." The Rev. Gilbert Austin, a noted preacher in Dublin, took the dimensions of this famous elm, and Hely Dutton, the author of "Observations on Mr. Archer's Statistical Surveys of Dublin," 1802, gives these dimensions as follows:—4 ft. from the ground, 14 ft. 9 in. circumference; 15 ft., ditto, 4 ft. 9 in. ditto; 79 ft. ditto, 1 ft. ditto. This was truly a noble elm, and we are not surprised to hear that other folks as well as the famous old bookseller took an interest in the preservation of the "precious stump."

The life of Walter Cox, and particulars of his noted *Irish Magazine* and *Monthly Asylum of Neglected Biography*, may be found in other pages. We have already incidentally touched upon Watty, and the pungent political and literary periodical through which he sinned and suffered much from its establishment in 1807 till its suspension about 1815. He published with a vigour and a vengeance at 150 Upper Abbey-street his brimstone and lunar caustic lucubrations and effusions, libelled and libelling in return, gibbeting ultra-loyalists, government hacks and backsliders in his own ranks, and standing now and again in the pillory, and spending months in prison for not having the fear of God and the law before his mind. Cox was in sooth a strange character, a man and a journalist, who, though he cannot be pronounced a good subject, performed some useful service in his perilous time for the rights of the down-trodden poor and the many. Cox was originally by trade a gunsmith, and was to some extent in the confidence of the chiefs of the "United Irishmen," and is said to have furnished military data to Lord Edward

Fitzgerald. His *Irish Magazine* had a wonderful success for several years, and, judging the literary enterprise by the light of the period, and the difficulties and surroundings of its productions, it must be allowed that in mechanical get-up and in pictorial illustration, the periodical on the whole was not behind the age. Cox himself was a somewhat vigorous writer, judging him by those letters to which his name is appended. The *Irish Magazine* was an octavo periodical, each page being printed in double columns. Besides biography, essays, and general political and literary matter, it devoted space in each issue to original poetry, mathematical problems, occasional correspondence, &c. Satire, however, was its principal weapon, and all sorts of expedients and forms of writing in prose and verse were adopted to effect the objects of its conductor. A complete set of Cox's *Irish Magazine* is not often in the market for purchase. Though much of the contents of the magazine for present day purposes are useless, still the *Irish Magazine*, as a whole, will be found very useful to the local or even the national historian.

John Cumming is a name well remembered by many of our old citizens as an enterprising and prosperous bookseller for several years on Lower Ormond-quay. He came to Dublin early in the present century, and started at 16 (afterwards known as 17) on the same quay. In the adjoining house was Patrick Wogan, alluded to in former papers, who was previously established at 23 "Old Bridge." A partnership was entered into between the two booksellers, and the business was carried on for some time under the name of "Wogan and Cumming." About this period John and his brother James took up the business of the "Hibernia Press Company" in Temple-lane, Dame-street, and continued the printing branch of the business as the "Hibernia Press." The partnership was dissolved about 1824, and the printing materials were taken over by Mr. Michael Henry Gill to the "University Press" office. The veteran Mr. Gill, senior, is still alive in our midst, and may possibly live to be a centenarian, having already got half way between his eightieth and ninetieth years. John Cumming had a bright and prosperous career before him at one time, as he did a large trade. He was, however, a publisher as well as a bookseller, and issued several educational works, editions of school books and the classics, besides occasional other works of various kinds. A pocket edition of Moore's Melodies, published by Cumming, had a large sale. John Cumming married a daughter of Lewis, the book auctioneer, of Dame-street. During his hey-day of prosperity this bookseller lived in high style, drove his carriage, and kept his country house. The once busy and influential house collapsed in the "Famine Period," and shortly before this the firm was known as "Cumming and Ferguson," but after the break up the latter emigrated to America. John Cumming's annual trade sales were characterised by considerable spirit and liberality, and were looked forward to with interest by the bookselling trade. In the commencement of our papers we gave "The Booksellers' Charter Song," a poem composed specially to celebrate one of these re-unions in 1840, the song in question being the composition of another Dublin bookseller of the name of Fagan, who was established for several years in business at the corner of Liffey-street, Ormond-quay.

Peter Hoey, who carried on a lucrative bookselling business for several years on Upper Ormond-quay, corner of Charles-street, was originally established in the same business at 1 Skinners'-row (now Christ Church-place). Towards the beginning of the last decade of the eighteenth century, or about 1788, he removed to the north side of the Liffey. The shop on Ormond-quay was known by the sign of the "Flying Mercury," and the sign-board, though much weather-beaten, with name and representation almost undecipherable, remained on the front of the

house up till a quarter of a century ago. It is at present stowed away in one of the upper rooms. Hoey published occasionally some books and pamphlets, but his trade was mostly confined to selling books, of which he imported a large number from the sister kingdom. Since Peter Hoey's time, early in the present century, the shop on Ormond-quay passed through three or more hands in the same line of business. After Hoey's death his widow, Margaret Hoey, continued the business for some time as bookseller and stationer. The old shop, through a change in numbers, became known as 33 instead of 33. Some time after 1820 Hoey's widow was succeeded in business by Robert Dalton, and after his death by his widow Margaret Dalton, who carried on the same business till about 1851. Mrs. Dalton was succeeded by Mr. King, of the Stamp Office, who died in 1874, and since then the old business is carried on by his sons. The business of which Peter Hoey was the founder has now existed for nigh a century.

William Corbet, bookseller and printer, at 57 Great Britain-street before the commencement of the present century, was the founder of a printing house of reputation, which continued down till our own time. As already stated in some of our former papers, after the death of Peter Wilson in 1802, the "Dublin Directory," which bore his name for long years, came into the possession of William Corbet, who purchased the copyright of the work from Wilson's daughters and grandsons, to whom it was bequeathed by the elder Wilson. In the second decade of this century Corbet carried on his business for some time at 30 Little Strand-street; but before 1830, and down to a more recent date, the printing business founded by Corbet was carried on at 3 Upper Ormond-quay. Later again, we believe, the firm was known as Corbet and Co., on the same quay.

In the early years of the present century J. Christie started in business as a printer in Ross-lane, off Bride-street. He was the publisher of the first and only volume issued, of Halliday's translation of Keating's History of Ireland, 1811. The work was never concluded, owing to the premature death of the young and gifted translator, who, had he lived, would doubtless have won a high place in the list of Irish scholars, and writers on Irish historical subjects. William Halliday, jun., died in 1812, at the age of 24, and among the monumental inscriptions in Taney churchyard, Co. Dublin, will be found one inscribed to his memory. Christie issued several works and new editions of standard works in his time. Among these were: "The World Displayed," 8vo., 10 vols.; Goldsmith's "Animated Nature," 8 vols.; "Walker's Irish Bards"; Sanders's "History of the Reformation," 1 vol., 8vo., (this, we believe, is the only translation ever published); O'Connor's "Dissertation on the History of Ireland"; O'Halloran's "History of Ireland," 2 vols. An edition of the Douay Bible (never completed). Lewis and Clarke's "Expedition up to the Source of the Missouri," 2 vols. T. Ewing, a Dublin bookseller, published an edition of O'Halloran's History previous to that of Christie's. There was also an edition of O'Halloran brought out in London. This history of Ireland is, we believe, the only one that has been translated into and printed in the German language. Christie also published Taaffe's History of Ireland in 1809, but the fourth volume of the work was not published till 1812, in consequence of the bankruptcy of the publisher. Besides being a printer and publisher, Christie was a typesetter, and turned out some capital founts, the matrices being cut by himself. After leaving Ross-lane, where he carried on business for some years after his first starting in the printing trade, Christie removed to James's-street. Here he continued for several years as a printer and typesetter of reputation. He cut Irish characters as well as produced ordinary letters; and the Irish characters used in Barron's works on Ireland in 1835 were, we believe, cut by Christie. This noted Dublin printer

and typefounder, although his name is little heard of now, printed several illustrated books in his day, and he is worthy of a niche in the gallery of representatives of the Irish printing and publishing trade.

### THE ROYAL IRISH ACADEMY.

ON Monday evening, 21st ult., there was a general meeting of the Academy.

The President, Sir ROBERT KANE, in the chair.

The President said they had that evening to elect three members to represent the Academy on the Board of Visitors of the new Science and Art Museum in Ireland, which was now about being organised.

Professor O'Looney begged to submit as fit representatives the names of the Rev. J. H. Jellett, late President of the Academy, Mr. John Thomas Gilbert, its late Librarian, and Dr. J. K. Ingram, F.T.C., the Secretary of Council. The conspicuous talents of those gentlemen in their respective pursuits, and their devotion to the Academy were so well known as to require no words from him.

Dr. Ingram said an attempt was made in some quarters to represent the Academy as exclusively an antiquarian body, and, therefore, it was of the greatest importance at present that it should maintain its claim to be not only a scientific body, but the first scientific body in Ireland. On the other hand, as their museum was about being transferred to a new building, it might be thought that there should be two representatives specially qualified to deal with it. The charge of their collection of antiquities would still remain with the Academy, subject to such regulations and special directions as should be prescribed by the Committee of Council on Education.

The Rev. J. H. Jellett reminded the Academy that it was only through them that the archæology of Ireland would be represented on the Board of Visitors. Science would be represented not alone by them, but by the Royal Dublin Society also; therefore he thought they should select two archæologists and one scientific man.

A ballot was then taken, and at a later period of the evening it was announced that Sir Robert Kane, Professor Jellett, and Dr. Samuel Ferguson had been elected to represent the Academy.

### THE CUNNINGHAM FUND.

The next business was the consideration of a draft scheme for the administration of this fund by the council for the approval of the Academy, previous to its being sanctioned by the Master of the Rolls, to whom an application was lately made on the part of the Academy to sanction a scheme. The Cunningham Fund amounts now to £2,618 9s. 5d. New Three per Cent. Stock. The draft scheme recommended that the interest and dividends of the fund should be applied in the following manner:—1. In premiums of an honorary nature, such as medals, &c., to persons rendering eminent services in science, polite literature, or antiquities. 2. In pecuniary premiums, to be awarded by the council for the best essay upon subjects to be proposed by the council when and as they think fit, and advertised for public competition. 3. In the publication, under the title of 'Cunningham Prize Memoirs,' of such papers read before the Academy as, in the opinion of the council of the Academy, possess eminent merit. 4. That, subject to the making due provision for the above purposes, the council be at liberty to apply the annual revenue and dividends towards the expenses of the publication of the Transactions and Proceedings of the Academy. 5. That for all or any of the purposes aforesaid, numbered 1, 2, and 3, the council be at liberty to have recourse to the present or future accumulation of dividends, and to deal with the same as the revenue of the current year.

Dr. Ingram moved the adoption of the draft scheme.

Dr. MacSwiney moved that it be rejected. He maintained that it involved a violent change for which no necessity existed. The history of the administration of this fund by those who had had the charge of it was a history of blunders, indecision, and vacillation. The promoters of the draft scheme had stated that the fund had outgrown their ability to apply it beneficially. In other words, their assertion was that there had not been in Ireland men of sufficient talents and culture to be honoured with premiums and medals from this fund. He utterly denied that. No doubt the medal had been conferred upon McCullagh, Petrie, Apjohn, Kane, and Gilbert; but they could not expect to have men of the first rank every day; and he maintained that the Academy should have sought out merit, cultivated nascent genius, helped such men as Henry O'Neill, and given the medal to men like Dr. Aquilla Smith, P. W. Joyce, Professor Baldwin, John Cornelius O'Callaghan, Professor Hennessy, Denis Florence McCarthy, W. K. Sullivan, Dr. More Madden, and W. H. Bayly. He objected to any part of the fund being applied to the publication of the Transactions of the Academy; that would be contrary to the terms of the bequest. He submitted that the council ought to withdraw their scheme and refer it to a committee of the Academy. His opinions had been expressed in a protest signed by nearly forty members of the Academy.

The President said he could not allow Dr. MacSwiney to speak for forty gentlemen who could have been there if they liked to speak for themselves. The document would receive every consideration from the council if it came before them.

Dr. Richey, Q.C., admitted that the Cunningham Fund had been scandalously managed for many years, but maintained that the course which had been taken of applying to the Master of the Rolls to settle a scheme was the wisest that could have been adopted. The law was that any two members of the Academy could petition the Court of Chancery for the settlement of a scheme. Some scheme they must have now, for the matter was in the hands of the court. The council did not desire to press their draft scheme exactly as it stood; and the best thing that could be done was to amend it. If the Academy had taken upon itself to settle a scheme without the intervention of the Court, and had made any arrangement that was not in accordance with the wishes of the testator, they would be all individually liable for any illegal payments.

Dr. More Madden maintained that the council ought not to have gone into Chancery until they had first consulted the Academy.

Dr. Atkinson supported the action of the council, and maintained that it was not the function of the Academy to go out through the hedges and ditches in search of people to whom to give the Cunningham medal, or to employ the fund in anything of a charitable nature.

Professor Hennessy maintained that there were plenty of men in Ireland whose works entitled them to the premiums intended for them by the founder of this bequest. In Ireland we were too fond of depreciating ourselves. This was a terrible error, which had been availed of by Froude and other such writers, who had depicted the inhabitants of this country as a sort of semi-savages, devoid of literary and scientific culture. He was happy to say that his distinguished friend Mr. Lecky had vindicated them from such calumnies. He (Professor Hennessy) did not entertain absolute confidence in the council. Eight months ago a distinguished member of the Academy communicated to him a document signed by eighteen gentlemen of scientific attainments, amongst whom were five members of the Academy, and the object of which was to promote the establishment of a new scientific society in Dublin. Loyalty to the Academy made him refuse to have anything to do with those who were conspiring against it.

Mr. Garstin said the Government only

gave £200 for the publication of the "Transactions" of the Academy.

Mr. Gilbert was understood to say that the grants for that purpose and the "Annals of Ulster" amounted to £600.

The Rev. J. H. Jellett said they were all agreed that there must be a scheme of some sort. The fund produced only £76 a-year. That gave seven medals for every two years, and if so many were given, the medals would be merely worth the gold they were made of, and nothing more. These medals should not be given to encourage nascent genius, but as a reward for something that had been done. He believed there was no better way of encouraging Irish talent than by printing the Transactions of the Academy. If they did not keep that up, they would be signing their own death-warrant. He believed it to be perfectly within the scope of the testator's intentions to derive aid for that purpose from the fund. He hoped, therefore, the scheme would be adopted.

Mr. Fottrell read the protest alluded to by Dr. MacSwiney.

After a long discussion, Mr. Pigot moved that the debate be adjourned to the next meeting of the Academy.

Professor O'Reilly seconded the motion, which was carried by 19 votes to 15, and the proceedings terminated at ten minutes to twelve o'clock.

[We had proposed to write at some length on the action of the council *re* the Cunningham Fund, but we are reluctant to add to the fuel or the flame of the controversy. We have always stood up for the rights of the Royal Irish Academy, and defended its interests when endangered, so we are the more free to express an independent opinion. We are of opinion that in the present instance the council are entirely wrong, and that the scheme in respect to the Cunningham Fund should be cancelled, or so amended as to fulfil the original intention of the testator, or in such a way that, if the testator were alive to-day, and knowing the wants of the hour and the duty of the Academy, he would sanction.]

The Academy has at present some Government grants, and, though they are not as large as they should be, we hold that the council are not warranted in diverting a considerable portion of the Cunningham Fund to purposes other than those contemplated. Literary and scientific culture in Irish fields need assistance; and in connection with the Royal Irish Academy and its objects, the council will not find it difficult to make deserving awards and bestow honours, and win honour itself in return for so doing.]

### THE ARCHITECTURAL ASSOCIATION (LONDON.)

#### NEW PUBLIC BUILDINGS.

ON the 19th ult., the Architectural Association made its first Saturday afternoon visit to buildings in progress, the first selected being the new Natural History Museum at South Kensington, now in course of erection from the design and under the superintendence of Mr. Alfred Waterhouse, A.R.A. A description of the features of the building appears in our contemporary the *Builder*, which says in the concluding paragraph of its article that:—"The new museum is probably the largest, if not indeed the only modern building in which terra-cotta has been exclusively used for external façades and interior wall surfaces, all architectural and decorative features included, except to ceilings, floors, and cases to contain the specimens." There being comparatively little stone used in this building it may form a precedent for other public structures, and the movement or new departure seriously effect the stone and stone mason trade of the three kingdoms.

# GREEK AND ROMAN ART— THEIR CONNEXION WITH THE TEACHING OF THE CLASSICS.\*

## LECTURE IV.

(Continued from page 27.)

Now I wanted, as giving some life and colour to this rapid sketch of the gradual improvement in the methods of archæology, so far as is possible by the very second or third hand method of diagrams, to show you the way in which such and such a monument was interpreted. For that purpose, I have taken an example which can easily be verified by yourselves, namely, the remaining fragments of the sculptures of the western pediment of the Parthenon at Athens. You know, all of you, in the Elgin Room of the British Museum, the magnificent fragments of the Parthenon pediment. Perhaps those on the eastern side are the most beautiful and the best preserved. But still we know less about that composition and its interpretation than those on the western or left-hand side of the room. I shall tell you by-and-bye from what materials the approximate restoration of the composition, as it appears in this diagram, has been effected. This figure in the corner, representing the Ilissus, is the last figure as you go along the right. That is almost complete. The next two, the male and female, the woman on her knees starting in an attitude of alarm at the contest going on in the centre, and with her arm round the neck of the sitting man, for some reason or other, were not brought away by Lord Elgin; they are injured, but are still in their place in the pediment at Athens. Of the next three figures that appear in the diagram, there is nothing at all preserved, or, if anything, they are the merest fragments. The two great contesting figures in the middle have in like manner disappeared, but for fragments. Athene, the special Goddess of Athens, the Queen of Light and Wisdom, is here engaged in a contest with Poseidon, the God of the Sea. Of these two great contesting figures, the arms, a portion of the breast and ægis of Athene, and two portions of this heroic, colossal torso of the Sea-God—one great block, almost as much a specimen of geology as of art—only remain; but enough of it remains to show its indescribable grandeur. One block is at the British Museum, and another at Athens. These horses are problematical. We know there was a team there, but whether they were horses, sea-horses, we cannot say; every part of the horse has entirely disappeared. Of this charioteer, a beautiful fragment of the body, with the arms, remains. Then, next, we come to this woman with the child, and another female figure; and of these, I think, again, I am right in saying that nothing remains. Then we come to the reclining figures in the corner; the whole upper parts are shattered and lost, but what remains is in the British Museum—the lower parts of the figures. But these destroyed, defaced, crude fragments are enough to enable us—with the help of our other variously acquired aids to knowledge—to realise what the grandeur and exactness of Phidias means. Any student of art has only to look at, and touch, and examine one of these memorable fragments, worn as it is, to realise the perfection and grandeur of the workmanship. Our other materials for the reconstruction of the composition, besides the remains themselves, are these. You know how this wonderful building, the Temple of Athene at Athens, had survived all the storms of ages, and stood in amazing perfection and beauty up to quite a late time in history. It was not until the year 1867, one September evening, that the great destruction happened. There was then a war between the Venetians and the Turks. The Venetians had carried on a successful war against the Turks, and had made themselves masters of the Morea; and it seemed as if they were going to hurl the Turks out of Greece, if not out of Europe. They laid siege to Athens; the Turks entrenched themselves within the Acropolis, and the Parthenon was made the powder magazine. A deserter from the Turkish camp told the Venetian leaders that the powder magazine was there. The Turks thought that possibly the besiegers would spare this temple, the church, as it had been, of the Byzantine Christians. But they did not spare it, and on that September evening, a shell struck in that powder magazine, a great explosion happened, the sides of the building were shattered out, and the whole of the columns were overthrown, with the exception of a few at either end. In that great destruction, of course, a vast quantity of the sculpture was also destroyed, but a considerable portion still remained. Then there were horribly clumsy attempts to bring some away. These horses, which had always commanded an immense amount of admiration, were removed. The conquering Venetian General determined to

bring them home in triumph, just as the four bronze horses had been previously brought home from Constantinople, which now adorn the Place of St. Mark, at Venice. He got workmen and ladders, and they went up and tried to bring down these horses, but so clumsily, that they fell and were shattered to pieces on the pavement below. However, fortunately, twelve or fourteen years before this great destruction, people had been there who had seen the sculptures in their place, and made drawings from them. Two drawings of this pediment, as it was a few years before, were made, both by Frenchmen—one by Jacques Carrey, whose drawings are still preserved in Paris, and the other by an unknown architect or clerk employed by the French Ambassador, the Marquis de Noailles. The drawings were completed with the exception of these horses, for there is a great gap on both drawings where should be placed these horses, or hippocamps. There is also a figure of a dolphin which does not appear in this diagram.

These figures being what you see, let us proceed to the interpretation. Pausanias, our great authority for ancient works of art, who travelled about Greece in the 2nd century after Christ, and tells us what he saw, has described this in a tolerably accurate manner. Of course, there was in old times a great mass of literature relating to these things, quantities of books, of which that of Pausanias is the only remaining example, describing works of art with exactness, and criticising them. About many temples, for instance, those just discovered at Olympus, Pausanias gives very full details indeed; but about this Parthenon, curiously enough, he is very brief. He tells briefly what was the subject of its front or eastern pediment, and also of its rear or western pediment. Over the front was the birth of Athene, and over the rear the contest between Athene and Poseidon for the country. Athene and Poseidon respectively desired to be the patrons or tutelary deities of Athens, and in the contest each of them produced gifts in support of the claim to this tutelary position. The gift produced by Athene was the olive, a thing most useful and held most sacred in Greece; whilst the gift produced by Poseidon was a spring of salt water, by which is symbolised the sea, the source of the commercial riches of Athens. However, the olive was preferred, and Athene won. That, in a very bald form, is what is given us as an account of the contest by many ancient authors. It was regarded by the Greeks a real historical event, of which actual, tangible memorials remained, and might be seen. There was an olive tree, which was the sacred olive tree supposed to be created by Athene; and there was the salt spring supposed to be the Thalassa, gushing with salt water, produced by Poseidon. Both of these were enclosed within the precincts of the ancient and most holy temple of Erechtheus, on the Acropolis. Of the course and details of this legendary contest, the most particular account we have is that given by a late writer, who describes it thus:—That in the days of Cecrops, King of Athens, the gods began to desire a partition of the earth, and that each one should have a special country, of which he should be the tutelary deity, and should receive especial worship; that, at that time, in this desired partition, Poseidon was the first who came to Attica, and claimed his right; that he struck the soil of the Acropolis, and produced the salt spring; that after him Athene came to claim her right, and produced the olive; that a contest arose, and a tribunal of the twelve gods was called in to decide the quarrel; and the country was adjudged to Athene because of the evidence borne by King Cecrops, who proclaimed that Athene had been first in producing the olive. Then it adds that, after this contest, because the olive was preferred, and because Athene was chosen by the tribunal tutelary goddess of Athens, the rival claimant was enraged, and, determined on vengeance, came up with the horses of the sea, and overwhelmed the country, especially what is called the Thriasian plain, a low-lying district near to Salamis. There are a few other versions of the story, especially one by Ovid, giving it a slightly other turn, but in the main that passage gives us the incidents of the story which come into the interpretation.

Beginning with these central figures, there is no doubt at all that we have here the figures of Poseidon and Athene in the attitude of strife. Then, proceeding more in detail into the interpretation, what incident of the combat is presented there? Even in Greek figures, of which the whole is preserved to us, the exact interpretation is often difficult. The Greek artist does not represent incidents as we do—his art is not realistic. The Greek senses and perceptions were much finer than ours; all that they asked was that the deity or figure represented should by some attribute show who he was, and that the particular action in which he was engaged should be no more than adumbrated or indicated. Again, the form of the pediment

space dictated how the figures should be placed in various attitudes, stooping or reclining, and if there was such a group on one side, there must be such another on the other side to balance it, and maintain the general symmetry. All that imposes restraints and conditions which make the precise expression of the dramatic purpose much harder than it is in modern art. Various interpretations have been given as to the moment of the strife. Our time is rather short, and I shall deal chiefly with that which has, on the whole, been most accepted. It is this—that the strife is over; that probably here, between the parting combatants, were introduced not only Athene's olive tree, but also the water spring which Poseidon produced; that Athene is stepping back to her chariot; that Poseidon is in the attitude of enraged retreat; what the exact gesture of his arm or her's was, we cannot tell; it is pretty certain, however, that his trident was directed downwards; they were not in an attitude of direct combat one with the other, because that the greater gods should be so represented in actual conflict would be irreverent and undignified.

Now for the other figures. It is quite clear the twelve great gods are not there as judges. We can see that here is on one side the following of Poseidon, and on the other the following of Athene. Poseidon's charioteer would be his wife, the sea-goddess, Amphitrite. Then, when you see among the train of the sea-god the form of a woman and child, we can be pretty sure who they are likely to be. There was a princess of Thebes, Ino, who had a son named Melicerte, who, in a moment of frenzy, rushed to a certain precipitous cliff beside the Saronic gulf between Athens and Corinth, near Megara, and plunged over into the sea with her son. They became afterwards the tutelary deities of mariners, and were known as Palæmon and Leucothea; in that transformed sea state they were worshipped by mariners as deities. Following on these, we see that, according to the drawing, there was a great, dignified sitting figure of a robed matron, with a smaller figure of a naked woman on her knees, and near that a figure of a child. We know that no power is likely to be represented naked except the goddess of Love, Aphrodite. We know also, that Aphrodite was born of the sea, that she would naturally be found along with her son Eros, the god of Love, and in the lap of the sea-goddess, Dioné or Thalassa. We shall not go wrong, therefore, in interpreting the figures of Poseidon's following. But now to come to the chariots and attendants of Athene. It is a very common representation, when any two powers, or deities, were in conflict or contest, that the victorious one should be attended by the figure of Victory, and very often Victory is the charioteer. Most probably, therefore, this charioteer is Victory. In many cases the charioteer is accompanied by the god Hermes, and probably the figure behind the car represents that god. Then we shall not have much doubt about these three figures, the two women and the child—the naked boy, in the attitude of alarm, rushing to his mother. When, in connection with any scene in ancient mythology—especially one which has to do with anything happening in Attica—we see three associated figures of this kind, two women and a boy, those are sure to be two particular goddesses, who are associated with a youthful boy god, and the great seat of whose worship was close to Athens, namely, Demeter, or Ceres, and her daughter Persephone, and the accompanying figure the boy-god Iacchos, the special boy-genius of the orgies and mysteries of Eleusis.

About these figures at the end there has been much discussion. Some interpreters will have it that this is probably the Attic King Cecrops and his wife, while others of equal authority say that they are probably figures of the powers worshipped in the Acropolis, the god of health and the personification of health, Æsculapius and his daughter Hygieia. About the two reclining figures in the two corners there can be very little doubt indeed. In the pediment angles the two river gods were placed, figures personifying the rivers of the district, the Ilissus and the Cephissus; and it is natural to suppose that these river deities would be distributed according to their proper geography, and that each figure should be nearest the stream which he represented.

I ought to say that, by an excellent authority, a different interpretation has been placed upon this group. The incident has been supposed to be, not the central incident of the strife in which Athene, having been declared victorious in virtue of her creation of the olive, the two parties separated apart each to their respective chariots, but the moment following the conflict, of which I have already spoken, the revenge of Poseidon. You remember that when he had been beaten, in his wrath he arose with his power and flooded the Thriasian Plain. The rival interpretation is that

\* Cantor Lecture. By Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge.

here we have a representation of Poseidon, having advanced as god of the sea, flooding the Thriasian plains against Cecrops, and that Athene is in the posture of checking the advance of Poseidon in that revenge. The main reason, which I confess to my mind is conclusive against that interpretation, is that it is not likely that the artist would have taken such a subordinate incident rather than the central moment of the strife.

It is remarkable that, of all the minor works of art which have a resemblance in any degree to this composition, the one which offers most resemblance at the same time seems most to lean towards the latter interpretation. This is a beautiful vase with figures in relief, preserved at St. Petersburg. I have here another diagram representing it. The comparison of the two will, I think, help you to realise the various ways in which it is necessary to deal with every work of art, before you can arrive at anything like a certain interpretation, and will illustrate that which I have called the completeness and complexity to which the study in our time has arrived.

(To be continued.)

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

DURING the theatrical contests between Mossop at Smock-alley and Barry at Crow-street (1763-4) many incidents occurred, too numerous to detail. The newspapers of the period, the pages of retired actors who turned authors in their old age and left us their reminiscences, and the pages of other contemporary writers, may be consulted for details. In addition to the illustrations already given in our "Notes," we may quote a letter of Macklin to his daughter, dated from Dublin, November, 1763. He observes: "Never were there greater theatrical contests than at present, nor were parties among the ladies higher, inasmuch that they distinguish themselves by the names of Barryists and Mossopians. The contention between Barry and Sheridan on the one part, and Mossop on the other, and between Dancer and Abington—the other women are neglected. Pantomime and dancing are two good auxiliaries to Barry; and Saunders, the wire dancer, and Macklin's acting in the farces, are of great benefit to Mossop. The 'Beggars' Opera' (Polly by Miss Catley, from Covent-garden) has brought Mossop great houses. Last night, Macklin, after the play, addressed the audience, and hinted at his having agreed with the manager for half of the theatre; and that he had written two farces, which they would bring on this season—he was well received. Barry is determined to play the same plays that Mossop does, in order that the town may judge of the merit of the performers. Sheridan is neglected; he intends to give lectures."

From Macklin's letter we can catch some under-glances of the motives and movements of the time; and as he is writing to his daughter, perhaps we cannot blame him for putting in a good word himself. As was seen further back in our "Notes," Macklin had no love for his fellow-countryman Sheridan, and spoke disparagingly of him more than once; but though he might be neglected at times, and suffered bad treatment, Macklin's estimate of the man was untrue and unfair. However, we will not go back again over trodden ground.

After the "Maid of the Mill," the opera of "Artaxerxes" was brought out at Smock-alley, under the following cast:—Arbaces, Signior Posserina; Artaxerxes, Signior Peretti; Artabanes, Wilder; Rimenes, Ryder; Semira, Mrs. Hawtry; and Mandane, Miss Catley. The popularity of the musical pieces brought out during the season by Mossop may be gauged in finding that the "Beggars' Opera" ran eleven nights; "Love in a Village," sixteen; "Artaxerxes," fourteen, together with the "Maid of the Mill," "Comus," the "Jovial Crew," and the Italian burlettas. This was not a bad bill of fare for part of the season of 1764-5. The charming Catley closed her engagement on the 4th May in Rosetta, and left for England. In

leaving, however, it was announced to the public that she was re-engaged by Mossop to re-appear in the following winter. The musical pieces ceased on Catley's departure; but Mossop, in closing Smock-alley on the 19th May, informed the public that he intended opening immediately again with English operas, having engaged several capital singers from the sister kingdom.

At Crow-street, in the meantime, Barry was struggling hard against great odds, and the great burthen of keeping together a heavy company. Though he failed to compete with the vocal powers and musical pieces at Smock-alley, he was successful in bringing out the tragedy of the "Countess of Salisbury," founded on Dr. Leland's Longsword, Earl of Salisbury. The piece was got up with care, and we learn had a good run of success. Hitchcock writes:—"Salisbury was well adapted to display the powers of Barry, and Mrs. Dancer in the original part of the Countess exhibited those amazing abilities which have so often since enraptured the admirers of Melpomene, and which have so deservedly placed her at the very pinnacle of theatrical excellence." This play, brought out late in the season, ran for six nights, and Barry closed at Crow-street in July. The tragedy of Salisbury appears to have been subsequently acted in the Haymarket and Drury-lane Theatres, London.

Mossop, as he promised, brought out at Smock-alley what he termed his first new English opera. This piece, which bears the name of "Amintas, or the Royal Shepherd," was signalled on its production by the first appearance of Signior Tenducci, a name then and afterwards in high repute in musical circles. Alexander was performed by Signior Peretti; Agenor, Wilder; Thamyris, Miss Thomas, from Covent-garden; and Eliza, by Signiora Cremonini, from the Opera House, their first appearance in this country. Tenducci, who had obtained a degree of fame on the continent and in the sister capital, was well received in Dublin. We are told by an authority already quoted he was allowed to be by far the most capital foreign singer that ever up to the time visited these kingdoms, and that his reception was so flattering that he embraced every opportunity of returning to this country. The operas of "Amintas" and "Alexander" appear to have been the only operas performed at the time, and they were repeated twice a week during the summer, closing at the commencement of October.

Barry, after the close of the season at Crow-street, had as usual proceeded to Cork with a good company, where he played with profit and sustained reputation. About this period we find there was another strong detachment playing at Drogheda, and among the principal actors there we find the names of Macklin, Ryder, Lewis, Austin, Mrs. Kelf, and Mrs. Austin, &c.

On October 21, 1765, the regular winter season commenced at Smock-alley, Mossop opening with vigour. Miss Catley appeared in Macheat; Polly, a Miss Thomas; a new Lucy and Ryder's "Scopin." The operas of Tenducci were continued, but only with a very moderate success. A number of new performers were added, some from England and others from the provinces, including the following, none of whose names in after years became very remarkable:—Mr. Tyler, Mr. Pearson, Mr. Richards, Mr. and Mrs. Pearson, Mr. and Mrs. Gemca, Mr. Smith, and Mr. Blisset. The last-named, it is said, became afterwards an actor of much merit. At this time, however, unnoticed and unknown, appeared among the group an actor who subsequently established a respectable reputation. Edwin, who was very young at this time, and with all his misfortunes before him, made his first acquaintance with his Irish audience in the character of Sir Philip Modelove. Edwin remained two seasons in Dublin, and among other characters played Old Philpot, Lord Trinket, and Justice Woodcock.

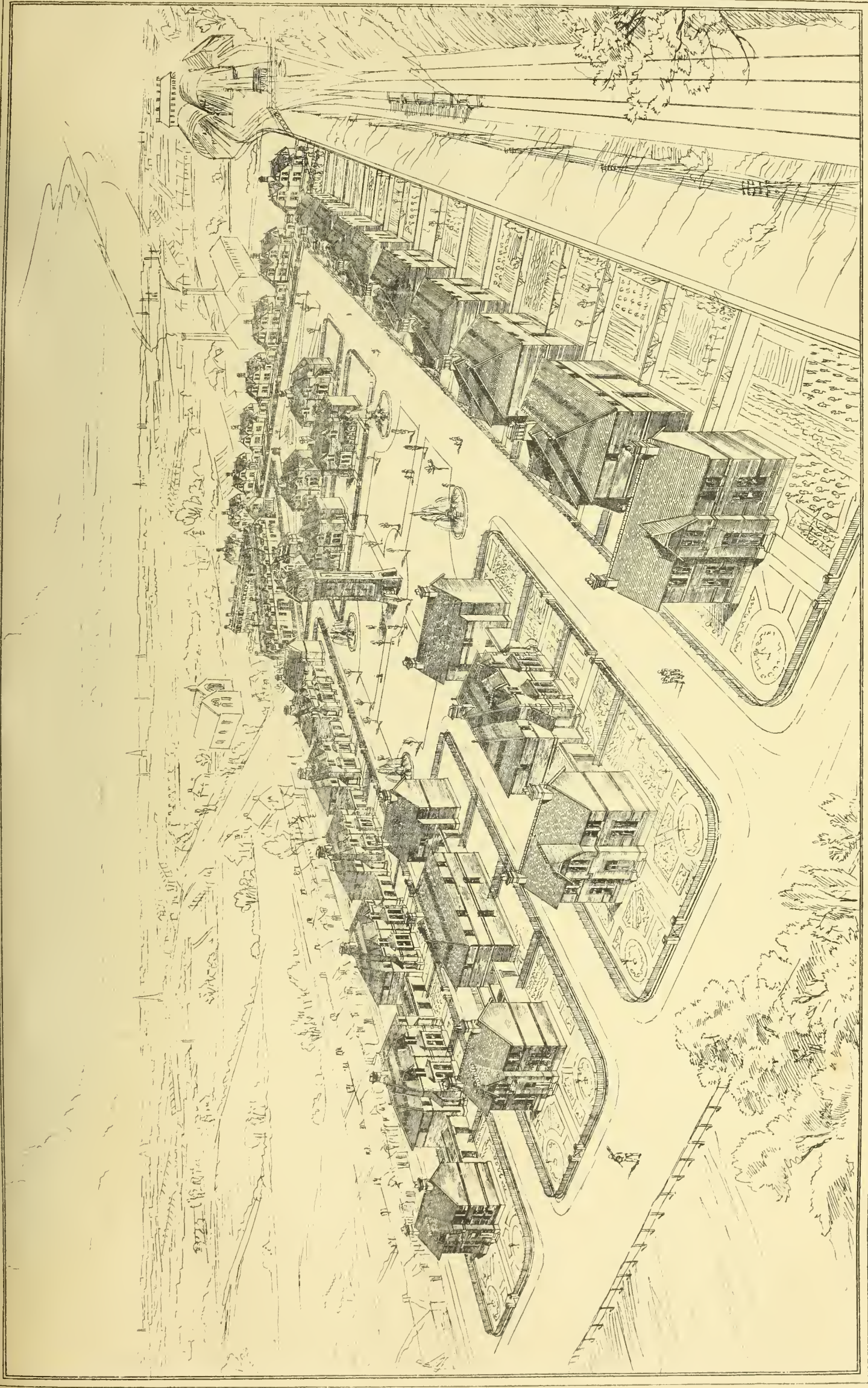
During this season we find a number of

performers again changing sides, passing from one theatre to another. Mr. and Mrs. Reddish and Mr. Glover were among those who left Crow-street for Smock-alley. At the last-named theatre operas continued, and as they had become fashionable brought considerable sums of money to Mossop. The new opera of "Athridates" had a run of twelve nights, and in this piece first appeared Miss Ashmore, afterwards known as Mrs. Sparks. She sang the pleasing air of "Dearest Mother," in which, we are told, she was well instructed by Signior Tenducci. We are also told that the audience "were highly delighted with this new little favourite, who some years afterwards charmed them in a variety of characters." The new little favourite, however, like others, soon learned how to change sides, for she is found towards the middle of the season playing Cupid in "King Arthur" at Crow-street, where she took a part benefit, appearing in the "Virgin Unmasked."

Matters were now faring badly for Barry at Crow-street; his credit and reputation were lessening, and, to make things worse, salaries remained unpaid, and debts were contracted which were utterly out of his power to discharge. Seeing his rival Mossop at Smock-alley sailing along with a steady tide of public favour, Barry felt bound to resort to some desperate expedient to mend his position, or perforce surrender to the inevitable. The expedient he adopted afforded him temporary relief, but we are told by Hitchcock it "was attended with reproach and disgrace to the theatre." The new departure consisted in Barry introducing to his Crow-street audiences a number of novel performers on all fours—in a word, a number of Dutch dogs and Italian monkeys. These appeared in the new pantomime, and performed their set tricks to the best of their abilities. The sticklers for the legitimate drama were, of course, shocked, though many, no doubt, were pleased, as they were in long after years at the same theatre when other dogs played upon the boards. Barry seems to have resorted to the practice of enticing successful performers from his rival at Smock-alley to join his company; but the honour and advantages he held out to them were fated to be never realised. Several left Smock-alley for Crow-street, and found the promises held out to them were empty, and that Barry was not in a position to make good his promises or agreements. In addition to Miss Ashmore, at the period of which we are writing, Mr. and Mrs. Reddish, Miss Slack, Signiora Spiletta, Tenducci, Cremonini, with several others, were induced to change sides by Barry's promises. Miss Catley stuck to Mossop and Smock-alley, and her attraction increased nightly, while the novelty of Tenducci and the foreign element was nigh exhausted. Nearly at the height of her fame at this time, Catley, it is stated, drew as much money to the Irish theatre as any vocal performer ever did, either before that time or till near the end of the last century. Catley played Polly, Macheat, and Lucy. She is said to have made a capital part of Dorcas, and gave up what few capital singers would have done, Rosetta playing Deborah Woodcock instead.

The following anecdote, said to be derived from a respectable authority, is related in connection with Crow-street at this time. It is put forward by the relater as a proof that actors are not always the best judges of pieces:—"Notwithstanding the uncommon merit and extraordinary success of the 'Clan-destine Marriage' in the early part of the season at Drury-lane—a piece which, we should imagine, only slightly to peruse, were sufficient to make any reader of common understanding pronounce it one of the best comedies in the English language,—yet, strange to relate, at the first reading of it in the green-room of Crow-street theatre in December, the whole company concurred in the opinion that it was not worth the trouble of getting up." Well, opinions differ, and are changed like fashions with the times. Perhaps the writer who speaks so favourably of

\* See ante.



COTTAGES FOR MIDLAND GREAT WESTERN RAILWAY COMPANY.

PLAN BY J. H. BRIDGFORD AND G. P. BEATER, ARCHITECTS.

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"Clandestine Marriage" in the last century, were he alive to-day, might express a very different opinion. The piece was laid aside at Crow-street for a time until Mr. T. Barry's benefit. He had it studied and performed, and we are told it pleased so wonderfully that it was played twice a-week at Cork in the following summer and several nights in the ensuing winter.

During the Dublin season of which we are writing, the death of Lewis Duval, the original proprietor of Smock-alley theatre, took place. This old veteran of the Dublin stage was upwards of ninety years of age at his death, and for several years there was an annual benefit for him at that theatre. At Crow-street Barry makes a final effort, despite the quarrel with his rival, hopelessly embarrassed as he was. Gathering together his forces, which certainly was a strong company, he takes the field with his colours proudly flying; but the beginning of the end had come—nay, the very end had almost arrived, for the real sinews of war were exhausted.

### THE INSTITUTION OF CIVIL ENGINEERS, LONDON.

On Tuesday, the 15th ult., the newly-elected President, Mr. John Frederic Bateman, delivered an inaugural address. After a passing allusion to the growth of the institution, which at the end of 1844 numbered only 552 of all classes, now increased to 3,189, reference was made to some of the addresses of the eighteen gentlemen who had previously occupied the presidential chair, mainly for the purposes of comparison. Thus, Mr. Robert Stephenson, in summarising the statistics of British railways to the end of 1854, mentioned that 368 million sterling had been authorised to be expended, of which 286 millions had been raised; whereas at the end of 1876 these figures were respectively 742 and 682 millions. Again, Mr. Locke, in treating of French railways, remarked that at the close of 1856 concessions had been granted for 7,030 miles, of which 4,060 miles were open; whilst at the close of 1876 these mileages were 16,452 and 12,715. Mr. McClean had contrasted the income available for taxation in 1815 with 1856, and had shown that in the interval the revenue from land had not increased, while that from houses had augmented 300 per cent., and from quarries, mines, ironworks, canals, railways, &c., 1,200 per cent. There was evidence that since 1856 the increase had been very great, even if these high rates had not actually been maintained. These remarks showed how largely the engineer had been employed, and how much his labours had contributed to the development of the wealth and prosperity of all countries where he had been engaged. Proceeding to matters more personal to every member of the institution, the president urged that engineering was but, in fact, the embodiment of practical wisdom; or, in the words of Bacon, "the conjunction of contemplation and action." Thought combined with practice had led to the perfecting of the steam engine by James Watt, to the successful application of the locomotive engine by George Stephenson, and to the production of the electric telegraph. It was to the combination of sound theory with successful practice, that engineering owed its present position, and had been able to advance material prosperity. It might, however, lay claim to more than that, for the works of the engineer had carried the blessings of civilisation into every quarter of the globe; the steam engine in its various applications had knitted together the most distant nations, ignorance had been brought into contact with knowledge, and heathenism with christianity. On these grounds, and on others, the education of the engineer was of serious moment. In France, and on the Continent generally, where public works were mainly carried out by the governments, engineers were educated in special schools, the theoretical information thus acquired

being admittedly superior, as a rule, to that imparted in this country; yet the students lacked that practical experience which had hitherto been the main source of the success of the English engineer, who owed little or nothing to Government patronage, and whose employment or depended on individual merit, the works being undertaken by private enterprise. Still, our young engineers were not always prepared, by preliminary education, as well as they might be for the subsequent acquisition of practical knowledge. Special qualifications, and some of a high order, were required, and it would be well if advantage were taken of the numerous public schools in which instruction bearing on engineering was given, with a view to prevent young men becoming pupils without these qualifications. But it must be understood that such training could only be regarded as preparatory, and not as being complete in itself; and it was a mistake and mischievous where any college or school professed to fit a student to act at once as an engineer. The president then gave a brief description of a few of the principal engineering works recently completed, or at present under construction; mentioning in telegraph engineering the telephones of Mr. A. G. Bell and Mr. Edison; instruments which differed in construction, but by both of which the human voice, with all its modulations, could be transmitted to great distances. Then, again, the quadruple system of telegraphy, imported from America, had also come into use. By this system two messages could be sent in each direction by the same wire at the same time. During the past year electricity had put forward other claims than those relating to means of communication. Thus, the electric light, if it could not at present compete successfully with the convenience in domestic arrangements of gas-lighting, had been found useful and effective for the illumination of large spaces, and the invention was about to be applied at the Lizard Point Lighthouses. In the conviction that experience of a special kind, gained during a long professional life, was of more real value than allusions, however lucid, to a variety of subjects, the president next adverted to a question which was of the highest importance in that branch of the profession to which his attention had been more particularly directed, viz.:—the rainfall of this country, and the quantity of water which flowed off the ground, available for the use of man if properly utilized, or destructive when uncontrolled and permitted to cause floods or torrents. The variation in the rainfall was very great. For instance, on the east coast of England and Scotland the average did not exceed 20 in. per annum; on the south and west coasts it was 35 or 40 in.; in the Penine chain of hills forming the backbone of England, the quantity ranged from 40 to 60 in.; in the highest parts of Wales, Cumberland, and Westmoreland a fall of from 60 to 80 in. was reached, while in some parts of the lake districts it amounted to upwards of 150 in. The observations of Mr. J. F. (afterwards Dr.) Miller, of Whitehaven, showed that the maximum density of the rain cloud was at about 2,000 ft. above the sea level, although local circumstances exercised an important influence upon the quantity of rain which really reached the earth; that the greatest deposition of rain might be expected on that side of a mountain exceeding 2,000 ft. in height, upon which the rain cloud impinged, but on the opposite side when the mountains did not rise so high; and that in a succession of ridges and valleys, without intervening mountains of a sufficient height to arrest the progress of the rain cloud, the greatest fall of rain would be in the first trough. In illustration, numerous observations on the rainfall in Lancashire and Yorkshire were given; and it was mentioned that the same results were observed in the lake districts of Dumbarton, Stirling, and Perthshire. As the quantity of rain varied in every district, and depended not only upon elevation but upon the physical and geographical features of the country, nothing could be more fallacious than to attempt to

determine, by any fixed ratio, the amount of rain which would probably fall in any district, unless there were some corresponding one, similar in elevation, in proximity to the sea, in exposure to wind, and in other external circumstances with which to compare it. The proportion of this very varying rainfall, which would flow off the surface, depended largely upon the geological character of the rocks, their elevation and declivity, and the manner in which they were clothed with vegetation. The water passed off partly in floods and partly in perennial springs; that issuing from springs varying according to the physical features or lithological character of the district. Absorbent rocks yielded the greatest abundance; next, loosely stratified rocks, and least of all the closely bedded slate rocks and the primitive formations. Generally, in the coal measures, the millstone grit, and the primitive formations, the quantity of spring water in the driest seasons would vary from about  $\frac{1}{4}$  to  $\frac{3}{4}$  of a cubic foot per second per 1,000 acres;  $\frac{1}{2}$  a foot per second per 1,000 acres being an average quantity in a dry season. This quantity formed, however, but a small portion of that flowing off the ground in times of flood, which exceeded five or six hundred to one thousand times the quantity of water in dry seasons. The amount of flood waters was an important consideration in all engineering operations, as upon it depended the supply of large storage reservoirs, for canals, for water power, and for the use of towns,—the openings of bridges, spanning rivers, the construction of river courses, the drainage of lands, and the effect in "scour" upon the beds of rivers and upon the mouths of harbours.

### ANCIENT DUBLIN MUNIMENTS AND MUNICIPAL RECORDS.

SOME reference having been made in the daily Press and in our own pages from time to time respecting the municipal records of Dublin in connection with other records, Mr. J. T. Gilbert, M.R.I.A., writes:—

Some of these notices might lead your readers to infer that these city muniments had hitherto been almost unknown, and that no steps had been taken towards publishing any of them. Such an inference would be not only erroneous but unjust to the Government and the Corporation, as well as to myself. I therefore ask you to permit me to state, as briefly as possible, what has hitherto been effected in this direction. At the request of Cornelius Dennehy, Esq., and Dr. Norwood, and in compliance with the desire of Committee No. 3, expressed in the Town Clerk's letter of 11th June, 1866, I inspected the Corporation muniments antecedent to 1800. I reported on 15th June that many valuable documents were then in a most confused condition. Some were entirely obliterated from the carelessness with which they were treated in former times. Several documents of high value to the city had been long missing, and of those still extant in the possession of the Corporation there was neither catalogue nor inventory. I classed the muniments then in charge of the Corporation as follows:—

Class 1.—Original charters granted by the Kings of England to the city of Dublin, commencing in 1171–2.

Class 2.—Original contemporary vellum rolls of the acts of the Council of the city from the middle of the fifteenth century.

Class 3.—Vellum and paper books containing copies and entries of various important matters in mediæval Latin and Anglo-Norman connected with the affairs, laws, and rights of the city; original rentals and accounts signed by the mayors and city officers. In this class I include the "Chain Book" and the "Domesday Book," invaluable vellum volumes, portions of each of which were written about six hundred years ago.

Class 4.—Miscellaneous detached original documents, ranging from the fourteenth century, connected with the affairs and rights of Dublin.

Class 5.—A quantity of leases and agreements, of various dates.

The suggestions which I made to the committee were as follows:—

That all these documents should be stamped as the property of the Corporation of Dublin; that each charter and detached ancient instrument should be repaired, placed chronologically, and according to class.

That each roll should also be repaired and placed in a zinc case, lettered externally.

That translations and fair transcripts should be made of the more ancient, obscure, fragile, and decaying documents, to be bound into volumes and indexed.

That a catalogue should be at once prepared of all these books and documents dating earlier than 1800, with tables of

their contents and references to their locations in the muniment room, so that each document or volume could be at once produced when wanted.

That application be made, through the city members and other members of Parliament and the President of the Royal Irish Academy, to the Treasury in London, to authorise the publication of the more important of the muniments of the Dublin Guildhall prior to the reign of Henry VIII., from the grant annually made by the House of Commons for the printing and editing of the works styled "Chronicles and Memorials of Great Britain and Ireland."

This report and its recommendations were submitted to a meeting of the Town Council especially convened for their consideration by the then Lord Mayor, Sir J. W. Mackey, on the 21st of June, 1866. By this meeting the report and recommendation were unanimously adopted, and I proceeded with the classification and arrangement of the entire collection, new metal fittings, &c., for the Muniment Room being provided by the Corporation, under the superintendence of the City Engineer, Parke Neville, Esq.

In compliance with the suggestions in the report, a memorial under the city seal was addressed to the Lord Lieutenant on the 9th December, 1866, to beg that his Excellency would be good enough to bring under the favourable consideration of the Lords Commissioners of her Majesty's Treasury the prayer of the Municipal Council of Dublin, that their lordships would be pleased to sanction, at the expense of the Treasury, the publication of a collection of the Dublin muniments. This application formed the subject of a correspondence with the Government, in consequence of which Mr. (now Sir) Thomas Duffus Hardy, Deputy Keeper of the Records in England, by direction of the Treasury, visited the Muniment Room on the 20th April, 1867, and carefully inspected the documents and system of arrangement which I had adopted. He reported on the subject to the Right Hon. John Baron Romilly, then Master of the Rolls and Keeper of the Public Records of England. In this report Sir Thomas Hardy suggested the publication of a selection of these documents, to form a volume in the series entitled "Chronicles and Memorials of Great Britain and Ireland," issued under the authority of the Master of the Rolls in England. "This publication," he observed, he "was sure would be honourable to the Government and very acceptable to the Irish nation."

Lord Romilly reported to the Treasury in favour of this suggestion, and recommended that I should be appointed to edit the volume in the series published under his direction. This proposition was assented to by their lordships, after due consideration.

In June, 1868, I reported to Committee No. 3 that I had completed the arrangements and classification of all the documents in the Muniment Room. To it I had also transferred large numbers of city official papers which had formerly lain at the old Assembly House, William-street, and at the office of the secretary to the late Commissioners of Wide Streets. This work ensured the safety of invaluable ancient evidences of the city's rights and properties. It also secured the permanent preservation of many valuable original writings illustrating both the history of Ireland and that of her metropolis.

With the authority of the Treasury a volume of above six hundred pages, edited by me, was published in 1870, under the title of "Historical and Municipal Documents of Ireland, A.D. 1171-1320, from the Archives of the City of Dublin, &c." In this volume I supplied, from external sources in England and elsewhere, several very valuable documents connected with the city of Dublin, the originals of which had formerly been in the city archives, whence they had disappeared in former times. Amongst these I may make special mention of the second charter of Henry II. to Dublin; the charter of Prince John in 1185, and the charter of Henry III., 1229, under which the Dublin mayoralty is constituted. The limits assigned for the work did not admit of any documents being included in it subsequently to A.D. 1320. All these documents were written in contracted Latin or Anglo-Norman, which I had to decipher, expanding the contractions grammatically and printing in full, with epitomised translations into English. This was the first collection published of original Latin and French texts connected with the early civil history of Ireland. The history of the municipal middle and trading classes in Ireland under or in relation to the rule of England in the twelfth and four succeeding centuries had previously lain in almost entire obscurity. Unless in connection with the Church and the nobles, the interests of the middle and commercial classes are seldom mentioned by the annalists or chroniclers whose works formed the basis of subsequent compilations on Irish history. Authentic evidences on the subject of the history of the people can now, consequently, be gleaned only from the few existing remnants of municipal archives and correlative records which have survived to our time.

The work was rendered more than ordinarily arduous by many of the required documents being in divers and distant custodies, while all were written in contracted curial Latin or ancient French, replete with archaic technicalities. This publication entailed no expense whatever upon the city, as its cost was defrayed by the Government.

At a meeting of the Municipal Council, held on the 7th February, 1871, the following resolution was unanimously adopted:—

"That the volume of historical and municipal documents from the archives of the city of Dublin, now laid before the Council, be referred to No. 3 Committee, with instructions to prepare a memorial to her Majesty's Government, requesting that the remainder of the interesting and valuable muniments and records in the possession of the Town Council may be published without delay, and that this council do express their satisfaction at the able manner in which Mr. Gilbert has discharged his editorial duties."

A correspondence between the Municipal Council and the Government subsequently took place, the result of which was that the Treasury considered that the remaining Dublin archives, being of a local character and to some extent connected with the properties of the city, should be published by the Corporation itself, as had been done in similar cases in England and Scotland. Since that period the only steps taken in these matters, so far as I am aware, has been the compilation of a catalogue of the expired leases belonging to the city.

Believing, however, that, when circumstances permit, the Corporation will continue the publication which was commenced by me, at the Government expense, I have prepared for the Press accurate transcripts of the Dublin charters and other important ancient documents, as well as complete calendars to the city assembly rolls, with copious indices to all personal and local matters recorded on them. These works are ready for publication whenever it may be the convenience of the Corporation to make suitable arrangements for having them placed in the printer's hands.

#### ADVERSARIA HIBERNICA,

##### LITERARY AND TECHNICAL.

SINCE the days of the greatness of Greece and Rome in government and arts, systems of education have been many, or rather many systems have been recommended. It would take a volume or volumes to summarise ancient and modern systems of education, and present the reader passages from the works of the most eminent advocates and reformers of private and public education. In the British Islands alone, since the days of Shakespeare till the close of the eighteenth century, several distinguished men have ventilated their views on the subject of education and its scope, and many others have presented the public mapped-out systems which they believed at the time of their writing were calculated to effect on the public the good promised by their adoption. Jonathan Swift; George Berkeley, Bishop of Cloyne (churchmen); and Thomas Sheridan, the father of Richard Brinsley Sheridan, an author and actor of note in connection with the Irish stage, with many more of less distinction in this island, have written some sound truths about the English language and general education.

Thomas Sheridan, besides being the author of a dictionary of the English language, wrote a work in the middle of the last century entitled "British Education, or the Source of the Disorders of Great Britain." This work consisted of an essay, or rather a number of essays, and was divided into three parts. The author called it an essay towards proving that the immorality, ignorance, and false taste which so generally prevailed are the natural and necessary consequences of the present defective system of education. The author also undertakes to show that a revival of the art of speaking and the study of the English language might contribute in a great measure to the cure of the evils alluded to. Thomas Sheridan's "British Education" is now little known or consulted, but, as a whole, the work is well worthy of perusal in these days of factious quarrels between churchmen and laymen over systems of denominational and undenominational education. Advocates and opponents of present systems of education in private and public schools in this country, and School Board schools in the sister kingdoms, might

profit by reading Sheridan's pages. The work of our native author treats, in the first part into which his book is divided, "Of the use of these studies [above alluded to] to religion and morality, as also to the support of the British Constitution." Secondly, "Their absolute necessity in order to refine and fix the English language." Thirdly, "Their use in the cultivation of imitative arts—showing that, were the study of oratory made a necessary of the education of youth, poetry, music, painting and sculpture might arrive at as high a pitch in England as ever it did in Athens or Rome."

This work of Sheridan's is not dedicated, but addressed, to Philip Dormer Stanhope, Earl of Chesterfield, who had been a viceroy in Ireland a few years before the book was published. Chesterfield, it may be remarked, was very profuse in promises to literary men in his day, and was very anxious to be looked upon as a patron to men of letters; but as he treated Johnson, so he treated Sheridan, and his pecuniary patronage was of little value, and true liberality he had none. Sheridan, we think, had cause to regret the praise he bestowed on his lordship in the "Address" in his book. Hitchcock, in his "View of the Irish Stage," thus writes of Chesterfield, who professed such warm feelings for Sheridan at the time he was manager of the Dublin theatre:—"It must be confessed, Lord Chesterfield often practised the duplicity he so strongly recommended to his son. An instance occurs in the present case. When in Dublin he professed the highest esteem for Mr. Sheridan, and gave every encouragement to his plan of forming an academy to teach oratory, and on his departure made use of these expressive words—'Never let the thought of your oratorical institution get out of your mind.' Yet a few years afterwards, when Mr. Sheridan waited upon him in London to fulfil his promise, that celebrated patron of genius—the witty, the generous, the liberal-minded Earl of Chesterfield—bountifully presented him with a *guinea* as his contribution towards one of the noblest plans devised by human wisdom."

Sheridan appealed, as it appeared afterwards, in vain to Chesterfield to take an active part in founding an oratorical institution, or assist in fixing the English language on a sure basis. Swift, before Sheridan, had appealed in vain to the Lord Treasurer of his early days to take steps in reforming the English language, and wrote these words:—"I take it to be your lordship's duty, as prime minister, to give orders for inspecting our language," &c. "Suffer not our Shakespeare and our Milton," exclaims Sheridan to Chesterfield, "to become two or three centuries hence what Chaucer is at present—the study of a few poring antiquarians, and in an age or two more the victim of bookworms." After warmly appealing in his "Address" to Chesterfield on behalf of the English language, Sheridan amusingly observes:—"If that be not done, I can only promise your lordship (give me leave to address you in a parody of what Dr. Swift said to Lord Oxford on a like occasion) that about two hundred years hence some painful compiler who will be at trouble of studying old language may inform the world, that in the reign of George the Second lived Philip Earl of Chesterfield, remarkable for cloquence in his days, and for a peculiar vein of pleasantry which in an extraordinary manner captivated the hearts of his hearers. That some of his orations still remained, to be found in a few curious collections, but the language was so obsolete, that he could discover no traces in them of that wit and humour which were so admired in his own times."

A grain of mustard seed may produce in time a large harvest; but from Chesterfield's *guinea* what could be expected? Certainly not the foundation of a great institution, or the work of fixing the English language on a firm and unalterable basis. Philip Earl of Chesterfield was too fond of self to risk much in preserving the language of Shakespeare or Milton, or assisting an Irish gentleman of

education and culture to be primarily instrumental in accomplishing the work.

What Swift has written of our historians is applicable to writers in general:—"How shall any man who hath a genius for history, equal to the best of the ancients, be able to undertake such a work with spirit and cheerfulness, when he considers that he will be read with pleasure but a few years, and in an age or two shall hardly be understood without an interpreter. This is like employing an excellent statuary to work upon mouldering stone. Those who apply their studies to preserve the memory of others, will always have some concern for their own. And I believe it is for this reason, that so few writers among us of any distinction, have turned their thoughts to such a discouraging employment; for the best English historian must be under the mortification that when his style grows antiquated, he will be only considered as a tedious relater of facts, and perhaps consulted in his turn, among other neglected authors, to furnish materials for some future collector."

In taking the above extract from Swift we have adopted the present mode of spelling, for many of our present words were differently spelt in his days and even less than a century ago. We still preserve the language or rather the spirit of Shakespeare, Milton, Swift, Berkeley and others, but we have discarded their methods of spelling in numerous words. Had an attempt been made in Shakespeare or Milton's time to fix the English language, the distinguished men of these days would probably insist on preserving much of what was then considered right and fashionable. In Swift's or Sheridan's time similar reasons would no doubt prevail. As much as we respect Shakespeare or Milton, none will agree to go back to their methods of spelling, and so also in respect to Swift, and Sheridan, or even Johnson. If we go on for another half-century or century, the difficulties in the way of fixing or reforming the English language will become almost insurmountable, if they have not become so already. If the work is left for the distinguished lights of the twentieth century to attempt these, future reformers will smile at our standards of pronunciation and canons of taste (perhaps). Systems of spelling, however, are not systems of education, though spelling and pronunciation need to be fixed once for all on some regular and acknowledged basis, for no education can approach a degree of perfection so long as the present arbitrary methods exist.

*Apologos.* In the last chapter of his work Sheridan writes:—"In Athens and Rome there were two systems of education, which prevailed at two different eras—one in their flourishing, the other in their corrupt state. In the first, oratory and philosophy were united, and the youth were trained up to be not only wise, but active members of society. In the last, philosophy became the only study, the active was changed for the contemplative life, their time was chiefly employed in empty disquisitions and disputes about trifles; they for the most part became only wise in their own conceit, and were utterly incapacitated from being any use to the public. By this latter education chiefly was Athens destroyed; and this was the system which was adopted at Rome when in her state of slavery and corruption. Britain has her choice of these two methods. She has chosen the latter. What consequences are to be expected from it? But besides her preference of the worst mode of ancient education she has adopted into her system all the worst of the modern. Everything that is bad in the French is studiously imitated by us; everything that is good in their institution wholly neglected."

Montesquieu, who, among others, is quoted by Sheridan, in speaking of the difference between ancient and modern education, wrote:—"Another advantage their education had over ours—it was never effaced by con-

rary impressions. Epaminondas, the last year of his life, said, heard, saw, and performed the very same things as at the age when he received the first principles of his education. In our days we receive three different or contrary educations, namely, of our parents, of our masters, and of the world. What we learn in the latter effaces all the ideas of the former." Much argument might be raised on the head of Montesquieu's remarks. The influence of the world, professional and business life may dull a good deal of early impressions, but we question much whether it ever can wholly efface true good breeding, culture, and sound education. Whether we learn to read in our mother's lap, or at school, or finish our education in college, or again mount up the ladder of distinction by the advanced education of self-exertion, in each of these courses the student will learn much that can never be effaced. The best education is undoubtedly that which is adapted to the tastes and capacities of the scholar, and with a view to his future avocation, if this matter has been determined upon by his parents or the pupil himself.

The principal means whereby the English language might be refined and ascertained, according to Sheridan's opinion, was by the introduction and study of eloquence. He shews according to his reasoning and examples that the study of eloquence was the necessary cause of the improvement and establishment of the Roman language, and the same cause would infallibly produce the same effect with us; but we cannot follow him at present to the end of his reasoning. We remark further that Sheridan held that the liberal arts never flourished or arrived at perfection in any country, however otherwise remarkable for knowledge and ingenuity, where the study and practice of oratory was neglected. After discussing the subjects of poetry, music, and painting, he goes on to show that it is almost impossible that masters in these several arts should arrive at perfection without the lights and assistance borrowed from oratory. We may take another look through Sheridan's neglected work on "British Education" on another occasion. H.

#### DRUMCONDRA AND GLASNEVIN DRAINAGE SCHEME.

At a meeting of the Guardians of the North Dublin Union on the 23rd ult., a letter was read from the Secretary to the Port and Docks Board, stating that, having submitted the proposed drainage scheme for Drumcondra and Glasnevin districts to the board, he was instructed to inform the guardians that, having carefully considered the scheme, they felt it their duty to dissent from it, inasmuch as the discharge of the sewage at the place proposed would create a nuisance which would be highly injurious to the interests of the port of Dublin.

Mr. Edward M'Mahon mentioned that a letter had been received from the Clontarf Commissioners, also dissenting from the scheme; but no reply had yet been received from the Corporation on the subject.

A letter was read from the Local Government Board, forwarding copies of the reports made by Mr. Boyle, secretary to the Public Health Committee, relative to the nuisance arising from the River Tolka, and drawing the attention of the guardians to the correspondence which took place in the year 1874 on the subject, and to the views expressed by the guardians as to the desirability of the three local sanitary authorities consulting together in order to adopt means to remedy or mitigate a nuisance which they all admitted to exist.

On the motion of Mr. M'Mahon, seconded by Mr. Roper, it was resolved—"That the Local Government Board be informed, in reply to their inquiry with reference to the nuisance at Ballybough and adjoining district, that in the year 1874 this board had all the nuisances within their jurisdiction removed, but nothing has been done either by the Corporation or the Clontarf Township

Commissioners in removing nuisances existing within their districts. Since 1874 various plans for a good system of sewerage for the districts of Drumcondra, Glasnevin, and the adjoining neighbourhood, were considered by this board, and at length one submitted by Mr. Leonard, C.E., was selected, and approved of by the Local Government Board. In order to carry this into effect, it was necessary to obtain the consent of the Clontarf Town Commissioners, the Port and Docks Board, and the Dublin Corporation. A reply has been received from the Clontarf Commissioners, declining this assent; and on this day a letter has been received from the Port and Docks Board, declining their assent also. This board is therefore unable to carry out a scheme which would provide Drumcondra and adjoining districts with efficient sewerage."

[Until a well-digested main drainage scheme is carried out for the city, and the Drumcondra and Glasnevin drainage made subsidiary to it, we fear that the localities of the new projected township must remain without any regular drainage system. Standing alone, Drumcondra and Glasnevin would not be acting wisely, under the present day circumstances of these localities, to adopt a sewage utilisation scheme. Under favourable conditions we are in favour of sewage utilisation and irrigation, but the day is yet distant when it would be found answerable in the localities alluded to. It may be wondered at why the Local Government Board approved of the scheme of Mr. Leonard, C.E., and adopted by the union sanitary authority. Under present circumstances it is difficult to see how any scheme can be carried out for the northern districts, opposed as the local authorities are by the Corporation, the Port and Docks Board, and the Clontarf Town Commissioners. Neither the Corporation nor the Clontarf Commissioners are in a position to throw stones at their neighbours. Clontarf, Drumcondra, and Glasnevin might well join issue, and come to a common understanding on the head of their future action. It is the interest of both to be friendly, and not in opposition. A modification for the time being of Mr. Leonard's scheme might be found possible with respect to outfall, in view of the complete main drainage system. When the latter would be in course of construction, obvious emendations could take place. We do not think that the Bazalgette scheme for Dublin can be permitted to be carried out, even if the Corporation were ready to-morrow to begin the work, and the citizens willing to supply the money. At this present moment the Corporation is found opposing a very small scheme, and advancing the very same reasons against it as were advanced by the majority of the community against its own pet scheme. We certainly do not want our rivers or streams or healthy sea beaches polluted or covered over with sewage matter. The Corporation, if it fails to go sufficiently far out to sea with its sewage when it commences operations, will have to fall back on sewage utilisation schemes. We repeat again, under present circumstances Glasnevin and Drumcondra districts are powerless to move in any safe direction. They are not in a position singlehanded to adopt a sewage utilisation scheme, and otherwise they are opposed in carrying their sewage into the bay, where tons upon tons of the city sewage and filth is deposited weekly. The Government may do many things, but it cannot stultify itself, and the nut that has been given to Drumcondra to crack must be handed back to the Corporation intact to try its teeth upon.]

### THE DYNAMO-ELECTRIC APPARATUS.

At the meeting of the Institution of Civil Engineers (London) on the 22nd ult., the paper read was by Dr. Higgs, and was entitled "Some Recent Improvements in Dynamo-Electric Apparatus." We give below a summary of it:—

In a brief review of the rise and progress of this branch of electricity, the author stated that the practical application of Faraday's important addition to electrical knowledge appeared in the first magneto-electric machine, constructed in 1833 by Pixii, and subsequently improved by Saxton and Clarke. The use of machines of large size, driven at high speed, was suggested by Professor Nollet. In 1854, Dr. Siemens, of Berlin, introduced the Siemens armature. The principle of accumulation by successive action, by combining two cylindrical armature machines, was due to Mr. Wilde. All these magneto-electric machines were disadvantageous in use, because their effect did not increase with their dimensions. In 1867 Dr. Siemens patented a machine to obviate rapid reversals. The step from magneto-electric to dynamo-electric machines originated with Dr. Werner Siemens, Sir Charles Wheatstone, and Mr. S. A. Varley, the priority falling to the former. In the Siemens machine a peculiar method of winding the wire on the armature, devised by Mr. von Hefner Alteneck, was employed. In the Gramme machine a principle was adopted which had been described by Pacinotti in 1863, of whose apparatus the present Gramme machine was a modification. A description was given of the latest construction of Siemens' dynamo-electric machine and electric lamp, the latter devised specially for lighthouse illumination, and similar lamps were about to be supplied for the Lizard Lighthouse. The dimensions, weights, number of revolutions made by the cylinder, light equivalent in normal candles, and h.p. required for driving were, for three sizes of machines:—

| Dimensions in Inches |       |        | Weight in lbs. | Revolutions of Cylindr | Candles Light | H.P.    |
|----------------------|-------|--------|----------------|------------------------|---------------|---------|
| Length               | Width | Height |                |                        |               |         |
| 25                   | 21    | 8 8    | 298            | 1,100                  | 1,000         | 1½ to 2 |
| 29                   | 26    | 9 5    | 419            | 850                    | 4,000         | 3 to 3½ |
| 44                   | 28-3  | 12-6   | 1,279          | 480                    | 14,800        | 9 to 10 |

In the application to lighting purposes, the improvements in the present dynamo machines were obvious. The magneto-electric machines first employed in lighthouse illumination, as pointed out by Dr. Tyndall, bore a cost of 10 to 1 as compared with the latest dynamo machine, while the cubic spaces occupied were as 25 to 1, and the weights as 13·7 to 1, the total light power produced for the condensed beam of light being as about 1 to 5. Thus, with a cost 10 times, with a weight 14 times, and a volume 25 times that of the latest construction, the old machine produced one-fifth of the light, with an expenditure of practically the same driving power. The results of experiments with the electric light apparatus by Captain Abney, R.E., at Fort Monkton, in July, 1875, were given; but a more instructive series were contained in the Trinity House report on the "Comparative Trials of Electric Lights at the South Foreland," from August, 1876, to July, 1877.

An important factor in the light efficiency of a given machine was the resistance of the circuit leading to the lamps. Experiment indicated that, to obtain a maximum of light, the resistance of the conducting wires should be proportioned to that of the machine. In the use of dynamo or magneto-electric machines, the chances of stoppages had been quoted as a serious disadvantage; but these chances had been so reduced as not to exceed those arising with machines generally. The Trinity House report stated that "the No. 68 Siemens machine worked well from the 7th March to the 7th April, without any necessity for a stoppage. On the 11th March the commutator plates and brushes were

adjusted; on the 19th the brushes were renewed; on the 28th the commutator plates and brushes were again adjusted; and on the 6th April the commutator plates and brushes were renewed." The duration of the light, owing to required renewal of carbons, was limited to a certain number of hours, dependent on the size of the carbons and the machine employed.

Much excitement had been evinced as to the probable competition between gas and electricity, as sources of light-power. Although, under certain circumstances, these two agents undoubtedly came into competition, they had two separate fields. Hitherto gas had been employed for lighting spaces of both large and small dimensions, because a better source of light for large spaces had not been procurable with economy. But for lighting large spaces not subdivided by opaque objects or screens, it was a want of economy to employ gas. Assuming light power proportional to h.p. expended, 100 h.p. would give 150,000 candles' light; distributed from three points, the cost would not be more than £1 2s. 6d. per hour, each light-centre giving an illumination which would enable small print to be read at a distance of ¼ mile from the light. A burner giving the light of 20 candles consumed 6 cubic ft. of gas per hour, which might be manufactured at a cost of 2s. per 1,000 cubic ft. This gave 7,500 burners' light only, and 45,000 cubic ft. of gas at a cost of £4 5s. per hour, a ratio of 4 to 1 in favour of electric lighting. The economical ratios differed greatly, being dependent chiefly upon the price of gas and of the motor power employed. For large spaces the cost of electric lighting was about one-fourth, or even one-fifth that of gas lighting, when steam had been used as power, and wear and tear were reckoned. With a gas engine as motor, the ratio had only been as 1 to 3, the greatest economy having been with a turbine as motor. At M. Dieu's workshops at Davours, the cost per hour for gas was 2s. 0·632d. against 1s. 7·2d. for electric lighting. M. Ducommun found, taking into account wear and tear and interest, that gas cost 2·25 times more than the electric light, which ratio was increased to 7·15 when wear and tear and interest were left out of consideration. At Messrs. Siemens Brothers' Telegraph Works the economy was as 2 to 1 in favour of electric lighting. If, however, the ratio of light-intensities were adopted as the ratio of efficiency, the advantage would be considerably higher (20 to 1) in favour of electric lighting. It might be laid down as proved by experience, that for lighting large spaces, not too much subdivided, the advantage was greatly in favour of the electric light; but that where numerous light-centres of small intensity were required, or where the space was much subdivided, the advantage was in favour of gas. This advantage would cease when a practical method of subdividing the electric light was obtained.

The limit set by distance to the transmission of power, by means at present adopted, had been comparatively narrow. Hydraulic power had been the most adaptable, with, however, several important disadvantages. Although electricity as a means of transmission was also limited by the distance to be traversed, the limit was in this case much more extensible, and under favourable instances practically disappeared. For the transmission of power, say from a steam or water motor initially, the following system was adopted:—First, a strap or belt from the motor was carried to the pulley of the driving dynamo-electric machine which generated the current. By leading-wires of the required length, the electrical current generated in the first machine was conveyed to the terminals of a second and precisely similar machine. Thus the first machine generated the current, which was utilised in imparting motion to the second machine. The greatest work was yielded by the second machine when the strength of the current given by the first machine or source had been reduced to one-half by the induced current from the second machine. Supposing two

equal machines arranged for the transmission of power, the amount of work reclaimable from the second machine would be 50 per cent. of that employed upon the first, and the number of revolutions of the armature of the second machine, corresponding to the maximum of work reclaimed, would be half the number made by the first. Experiments also proved, that the loss of efficiency was proportional to the added resistance. The employment of the currents of magneto-electric machines for electrotyping and electroplating had long superseded the voltaic current. It was, however, only on a large scale that the current from a dynamo machine could be used with advantage. For small electro separations, or depositions, magneto-electric machines had been constructed. For the deposition of large quantities of metal, where by changing baths in succession little change was made in the total circuit resistance, the dynamo machine gave much greater economy. With one of these machines, and a proper succession of vats, as much as 3 tons of copper had been deposited daily.

### LAW.

#### HIGH COURT OF JUSTICE—COMMON PLEAS DIVISION.

(Before Chief Justice Morris and a special jury; January 24th–26th).

*Cavanagh v. Gabbett.*—This was an action by Mr. James Cavanagh, builder, of Limerick, against Mr. D. F. Gabbett, a gentleman of property, of Cahereonlish, in the County of Limerick, for building twenty-three houses and sundry other works. Messrs. Heron, Q.C.; O'Brien, Q.C.; and Atkinson, instructed by Mr. W. M. Beauchamp, were for the plaintiff. Messrs. Murphy, Q.C.; Johnson, Q.C.; and Bewley, instructed by Messrs. Barrington and Co., for the defendant.

Mr. Heron stated the case for plaintiff. His client was a builder, who had executed important works most satisfactorily under some of the leading architects. Amongst other works, he had built Strand House, Limerick, and Cahereonlish House, for the mother of defendant, and might be called the hereditary builder of the Gabbett family. From 1872 till 1876 he had been employed to rebuild almost the entire village, on plans furnished partly by himself and partly by Mr. Cox, Inspector under the Board of Works, from which defendant was able to borrow the money on favourable terms. He agreed to build the first four houses, as per Mr. Cox's plan, for £460, which formed the first item in the claim. The remaining nineteen houses were built without any special contract, and amounted to £2,538. There was also miscellaneous work to the extent of £451. The work was executed to the entire satisfaction of defendant and the Board of Works' Inspector, who passed it for the loan. The total of these amounts was £3,451, of which £2,560 had been paid on account, leaving £891 due at the time of bringing this action. The amount lodged was £166, reducing the balance to £725. Plaintiff, on the completion of the works, having other heavy works in hand, was not able to give proper time to the making out of his account. He, however, measured the miscellaneous works, and of course the contract sum for the first four houses stood, but the other nineteen houses he lumped at £100 each, and sent in a bill in April, 1876, amounting to £2,786, the balance of which (£226), if he had been paid within any reasonable time, he would have been satisfied with, although it would have left him no profit. Defendant's agents, however, would not pay this, but required to have it taxed, not by any competent architect or surveyor, but by a certain road contractor or clerk of works. After waiting more than a year, plaintiff determined to have his work properly examined and valued; and, having given due notice to defendant, applied to Mr. William Fogarty, architect, of Dublin, on whose valuation the present claim was

founded. The difference as to the amount for the houses formed the main subject in dispute. Although it seemed strange that plaintiff should sue for a larger amount than he had been at one time willing to take, counsel submitted that, as it would be clearly shown plaintiff had erred against himself in lumping these houses, he was entitled to recover. Defendant had lodged in court the amount of plaintiff's original account, less £60, relying on an estimate given by plaintiff for the first four houses for £400, which would be shown to be for different houses.

The plaintiff gave evidence in support of the opening statement. Had given an estimate for the first four houses at £460, which he believed was deposited with the Board of Works. They cost himself in wages £300, and in all about £600. Mr. Gabbett often told him he would never see him at a loss.

Cross-examined and shown a number of estimates, one being for four houses for £400, and the rest for different amounts, averaging £120 per house; denied that any of these were for the houses as built.

Mr. W. Fogerty.—Was the architect of Strand House and Caherconlish House. On being asked by plaintiff to examine the work in the village had written the letter to defendant's agent (copy produced) asking for particulars of contracts, but was told there were none. Took plans of the houses; they varied in size and number of storeys, and were value, at the same prices as in plaintiff's own bill of miscellaneous works, for from £100 to £150 each. One house (Burke's) was value for £200. The first four houses were value for £700.

Cross-examined as to conversation with Mr. Guinane (defendant's sub-agent) heard nothing of an agreement at £100 a house.

Mr. E. H. Carson, architect, considered the prices in Mr. Fogerty's valuation reasonable. Knew the plaintiff, who had built the church at Caherconlish under his direction, and given great satisfaction.

Mr. J. Penny, from the Board of Works, produced a number of plans and estimates for the houses, one being for the first four at £459 16s.; also reports from Mr. Cox, which were put in and closed plaintiff's case.

Mr. Murphy, Q.C., stated defendant's case. His client had never authorised any of the work except the miscellaneous items, without a special contract. The contract for the first four houses was there signed by plaintiff at £400 instead of £460. The estimates for the other houses came to more, but it would be proved that plaintiff agreed verbally to do them for the same, and there was his own bill in which they were so put down. Could it be believed that plaintiff, who could measure the miscellaneous works so exactly, was such a fool as to lump the houses at £100 each, if there was no special contract for them?

Mr. Guinane produced the estimates relied on by counsel. Was sure the estimate of £400 was for the first four houses as built. Plaintiff had agreed verbally to knock off the difference from the other estimates, to bring them to £100 per house.

Mr. Hanrahan, road contractor and clerk of works. Was employed by Mr. Guinane to check plaintiff's bill of miscellaneous work, and thought it too high.

Mr. W. S. Cox, C.E., prepared the plan for the first four houses. The estimate for them was sent to the Board of Works, and amounted to £459 16s. Heard plaintiff say he was doing the other houses at £100 each.

Cross-examined. They were value for that sum without profit, which might be put down at from 10 to 15 per cent.

Mr. W. L. Barrington, C.E. Had examined some of the miscellaneous work, and thought some of the prices too high.

Mr. Fogerty recalled. Had examined the estimate for the first four houses at £400. It was not for the houses as built. They had two storeys, but the estimate was for one storey. The houses contained work to the amount of £178 not to be found in the estimate.

Counsel on both sides having addressed the jury, the Chief Justice charged that there

could be no doubt the contract for the first four houses was for £460, not £400. As for the other houses, a man ought generally be well satisfied to get what he asked himself. Plaintiff's own bill for the houses at £100 each corroborated the evidence that he had agreed to do them at that figure, and if the jury were to find for a larger sum the verdict would most probably be set aside.

The jury, without leaving the box, found for plaintiff £60 beyond the sum lodged.

## PUBLIC HEALTH (IRELAND) BILL.

SINCE our last issue the Government bill to consolidate and amend the acts relating to Public Health in Ireland has been printed. It consists of 292 clauses. A memorandum prefixed to the bill states that its objects are to consolidate into one Act the various provisions with respect to sanitary matters and burial grounds of the several acts—no less than twenty in number—now in force in Ireland, and to amend the same where such amendment is required. The bill is divided into six parts, under the following headings:—Sanitary Authorities, Sanitary Provisions, Burial Grounds, General Provisions, Finance, and Legal Proceedings. The first fourteen clauses relate to the constitution, powers, duties, and property of sanitary authorities, to medical officers of health and other sanitary officers, and to the formation of united districts, and re-enact similar provisions of the Public Health (Ireland) Act, 1874, omitting section 8 of that act, which will be no longer necessary.

We would like to re-produce several of its clauses, but we cannot spare space at present. The bill, on the whole, is a valuable one, and no doubt will effect several needed improvements. In our last issue we printed the objections and proposed amendments which the Public Health Committee of the Dublin Corporation desire to see carried out before the bill is passed. Doubtless in its passage through the House the bill will receive some desirable emendations.

## A "JERRY" BUILDER SENT FOR TRIAL.

AN inquest has been holden at the Town Hall, Hackney, London, by Mr. Coroner Humphreys, to inquire into the circumstances attending the death of John Patrick O'Connell, bricklayer, aged 29, by the fall of a house, just completed, at Kenmare-road. It appeared that a block of houses is being built by Mr. Hackett on that road. On the 16th ult., at 3.30 p.m., the party wall of one of the houses gave way, and the deceased was buried in the debris. When rescued, it was found that he was seriously injured in skull, arms, and ribs; he succumbed shortly after removal to hospital.

The following report of the evidence given at the inquest has been furnished by *our own* correspondent:—

Frederick Taylor said he was clerk of works and timekeeper. He was employed by Mr. Hackett to supply the contractor, Mr. W. Brown, with whatever material might be required. The contractor undertook to find the labour at the rate of £3 10s. per rod, or £25 for each house. Mr. Hackett supplied the whole of the materials. In the construction of the five houses 36½ yards of lime and 74½ yards of sand had been used.

In cross-examination witness said he could not tell how much loam had been mixed with the mortar. The wall was not of the same thickness all the way up. He would not swear there was concrete in the foundation, but to the best of his belief there was.

Mr. John Hackett said he was a plumber and decorator, and lived at No. 27 Clonbrook-road, Stoke Newington. He purchased the ground from the trustees of the Tyssen-Amhurst Estate in November last. His plans were prepared by Mr. Blackmore, architect and surveyor. Witness was not a practical builder, and had no knowledge of the quantity or quality of the materials used; left that matter to the discretion of his contractor, Mr. Brown, who had orders to ask for whatever was necessary, and he would be supplied by the clerk of

works. The agreement was that the houses should be built in a workmanlike manner, and be paid him the amount of his offer without asking for a reduction. Witness admitted that Mr. Hamilton, assistant to the district surveyor, had a fortnight ago called his attention to the inferiority of the materials used, and he had some portion of the works rebuilt, but the wall which fell had not been interfered with. Had seen a copy of the notice served on him by Mr. Legge, the district surveyor. Upon receiving it witness had an interview with Mr. Legge, and that gentleman said he might have one week to supplement the bad work, or he might find himself at Worship-street. He also said if a further week elapsed he might find himself at the Old Bailey.

[The Coroner here read a document sent by Mr. Legge to Mr. Hackett, stating the houses were not built in conformity to the Act of Parliament, the walls not being properly bonded and put together with mortar.]

By the foreman: Did not have the wall that fell bonded; but every thing else, as far as time allowed, was done in accordance with the notice. Could not give any opinion on the mortar produced. Could not say whether a person could stand in the road and see through the wall. Brown was recommended to him as being a thoroughly good man. Had no practical knowledge as to what was required. Brown could only use the material sent to him; if they were not good he ought to have complained.

Mr. George Legge, district surveyor, deposed that from information he received from his clerk he inspected the premises on the 1st inst., and again on the 10th, and said that better materials must be used. He then served a summons on Mr. Hackett, who called at his office on the following Saturday, when witness told him that the houses had been run up too quickly; that the materials used were not good; and that if he did not at once pull down the work he would have to appear at Worship-street, and, possibly, find himself at the Old Bailey for manslaughter. He strongly wished to argue about the materials and workmanship, but witness told him he had never seen worse. Witness had no power to stop him.

Mr. James Edmeston, surveyor, said he had examined the materials, and found the workmanship to be very bad, and the mortar used of a very inferior sort. The conclusion he arrived at was that frost and wind had little or nothing to do with the fall of the wall, but that it was due in the first place to hasty (for the season of the year), careless, and bad workmanship, and in the second place to the inferior quality of the materials used. The sand was not good, and the walls were filled up with loose stuff, and had been overloaded with the mortar used. The mortar was very inferior from want of lime, the sand was rather better than it looked, though it was not good, and where there were spots of lime it did not seem to be mixed. The very weight of the chimneys, the brickwork not being bonded, might have brought them down. The wall fell from preventable causes. The mortar produced would not make a good substantial wall.

Mr. Humphreys, in summing up, called the attention of the jury to the fact that the owner was not a practical builder, and that he had left his contract in the hands of a builder, to have his work done in a workmanlike manner. The builder was empowered to have the necessary materials, and no attempt had been made to get the work done at a cheap rate. He did not think there was any criminal negligence.

Mr. Kemp said that the jury unanimously differed from that view, because the builder should have had some thoroughly practical person to superintend the works; also because he had used improper material in the construction of the house, and for running up the building with undue haste, and not shoring up the wall, notwithstanding the warning he received.

The jury retired, and in a few minutes returned with a unanimous verdict of "Manslaughter" against Mr. Hackett.

Mr. Hackett was committed for trial, but admitted to bail in the sum of £200, and Messrs. Blackmore and Hadfield in £100 each.

BELFAST GAS.—"There is cause of great satisfaction," writes a Belfast contemporary, "in reference to the Gas Works, the report of which continues to prove the wisdom of the change of responsibility from an English Company to the Corporation, and the success of which called forth a special compliment to Sir John Savage, who has always advocated the works being under the control of the Corporation. When the change occurred, during the mayoralty of James Alexander Henderson, Esq., J.P., by whom it was strongly supported, a few members predicted failure; but the only failure has been in the prediction itself, and there is no doubt if things go on as they are going, Belfast will have the cheapest and best supply of gas in the kingdom."

## THE LATE DR. JOHN DORAN, F.S.A.

THIS well-known and distinguished *litterateur* died on the 25th ult., at his residence, Lansdowne-road, Notting Hill, of bronchitis, after four days' illness. He had been for some years back the editor of *Notes and Queries*, and acted for some time also in that capacity on the *Athenaeum*. Dr. Doran was of an Irish family originally from the town of Drogheda, and was born in 1807. He began life as a private tutor, and spent several of his early years in France. He became a contributor to periodical literature at an early period, and it is stated at the age of fifteen produced a melodrama on the subject of the Wandering Jew. His first substantial literary work, which was of an archaeological kind, was a "History of the Borough and Castle of Reading," in Berkshire. Subsequently he published an edition of Anthon's "Xenophon's Anabasis." After the publication of his racy and entertaining "Table Traits" in 1854, Dr. Doran's name became more popular and conspicuous among the men of the time. Among his other works were: the "Lives of the Queens of the House of Hanover," 1855; "Lives of Princes of Wales," 1860; "Their Majesties' Servants," which treats of the history of the English stage and its chief actors and actresses. In this work, although Dr. Doran has passed under review several performers of Irish note who were connected with both the English and Irish stage, he does not devote much space to the history of the Irish stage. Indeed his details concerning the Dublin theatres are scant, although his work, as a whole, is a somewhat comprehensive and interesting one. The latest work of Dr. Doran was published towards the close of the late year—"London in the Jacobite Times." The much-lamented gentleman was buried on Tuesday at Kensal-green cemetery.

## ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At a meeting of the above Institute held on the 21st ult., Mr. J. Whichcord in the chair, two Fellows, two Associates, and a number of Honorary Associates were balloted for and elected. The chairman announced the death of Sir William Stirling Maxwell, an Honorary Fellow of the Institute, remarking that the deceased was a careful writer upon pictorial art, and would be a great loss to their body. The chairman also announced the death of an Associate, Mr. Hartley William Burgess, his close personal friend and valued assistant.

Mr. Cockerell, Hon. Secretary for Foreign Correspondence, announced the death of Signior Guiseppe Mangoni, of Milan, which took place on the last day of the late year. The deceased was an Honorary and Corresponding Member, and his death was caused by injuries sustained by falling from a scaffold at the new arcade of Victor Emanuel, which was being erected under his superintendence. A letter was read by the secretary received from the Leicestershire Society of Architects, enclosing a resolution expressing its appreciation of the efforts made by the Institute for the improvement of the status of the profession, as shown by the reforms of last session.

Mr. Charles Fowler called attention to the fact that the Metropolitan Board of Works intended to introduce a bill into the present session of Parliament to amend the Metropolitan Building Act, and moved that the council be requested to obtain copies of the bill, and, if they deemed it necessary, to appoint a special committee to consider the alterations proposed with the view of making such suggestions or recommendations as the interests of the public and the profession demanded.

Mr. Eastlake said the first part of the resolution had been anticipated by the council, copies of the bill had been applied for, and the Board replied that copies of the bill would be forwarded to the Institute as soon as

ready. Mr. Fowler's resolution was agreed to.

The discussion then took place on Mr. Horace Jones's paper on "The New Metropolitan Markets," read at a former meeting. The following members took part in the discussion:—Mr. J. Douglas Matthews, who moved a vote of thanks to the author of the paper; Mr. Woodthorpe, Mr. Rudkin, Mr. Ewan Christian, and Mr. Charles Fowler. The chairman summed up, and Mr. Horace Jones himself replied.

Mr. F. C. Penrose, surveyor to the Dean and Chapter of St. Paul's, read a brief communication respecting some recent improvements in paint materials, the invention of Mr. N. Wilkins. Their chief feature consisted in the abandonment of white lead, and the substitution for it of kaolin or china clay in combination with a small quantity of zinc white. The use of driers was also dispensed with by boiling a small quantity of Turkey umber with the oil to be used.

Mr. E. I'Anson then read his paper on "The Architecture of Norway."

## ENIGMA,\*

AND SOLUTION OF SEVERAL ENIGMAS WHICH HAVE APPEARED IN THESE PAGES.

We are sisters seven, all told,  
Of long and ancient family;  
Our mission now we try t' unfold—  
You'll understand it presently.

Our first is known in heaven to dwell  
'Mongst saints, and chief of angels fair;  
But, after all, 'tis known full well  
Her presence is scarcely needed there.

Our second 's always met where'er  
Religion teaches holiness;  
Behold her now absorbed in prayer,  
Piety claims her we confess.

Our third complains, I am not two,  
'Tho' rendered thus by authors and the news,  
Such teachings evidently, too true  
Th' unwashed must no doubt confuse.

Our fourth in winter's shroud is seen  
Covering mountain, hill, and moor;  
When all the earth and sky between  
In snow and frost is mantled o'er.

Our fifth in matchless glare is seen,  
Centered in the orb of light,  
Whose glorious dazzling sheen  
Controls our day as well as night.

Our sixth 's acknowledged to be found  
First in the world; and, 'tis true,  
Ever with the most renowned  
First in wealth and wisdom too.

† Half sister seventh, 'tis hard to trace  
Her origin and her descent;  
'Tis said she is of Grecian race,  
And with you always present.

Our author writes, "None invited, none proscribed,  
To solve our riddle. All know why—  
In former pages—separately described,  
More plainly 's given the Vowels A to Y."

W. H.

A SOLUTION OF  
THE SEWAGE DIFFICULTY.

STATESMEN and local rulers, engineers and others, and all those specially interested in the future of the important sewage question, would find material for thought and application in an excellent article which appeared in our contemporary the *Builder* in its issue of the 19th ult., entitled "A Moral and Economic Aspect of the Sewage Question." The article shows how waste lands and the labour of thousands of idle hands could be utilised, and points out how sewage disposal and distribution could take place on a large scale both at home and abroad. Indeed we must ourselves admit that the scheme proposed by the *Builder* is feasible and practicable, and by it not only pauper labour could be profitably utilised, but, under certain conditions, a large amount of convict labour. It would be quite

\* Written for the IRISH BUILDER.

† ' is a consonant when beginning a word; a vowel otherwise.

NOTE.—In most dictionaries the letter W is described as a vowel perhaps this is not strictly correct, as both W and Y are more properly designated as semi-vowels.

as easy to apply convict labour to works of irrigation and land reclamation as to employ it in working quarries and constructing harbours and breakwaters, &c. The State would be eventually benefited, and to a great extent the sewage difficulty solved by adopting the scheme set forth in our contemporary, to which we refer the reader for details. It is not the first time that the *Builder* discussed the same question on the same lines; and, to show that it has faith in its scheme, the conductor is prepared to take shares to the extent of £1,000 in any well-considered and well organised scheme, which shall include the reclamation of land by means of London sewage and pauper labour. Are there any honest Irish speculators or promoters willing to invest capital or assist in working out the problem to a successful issue? Labour is cheap and plentiful in Ireland, even apart from the pauper kind, and we have millions of waste acres inland, as well as slob lands and foreshores around our island.

THE RECENT CONFERENCE OF  
IRISH ARCHITECTS.

In our last issue we expressed a hope that the members of the architectural profession would respond to the invitation issued by the Institute for a general meeting to discuss a proposal for the re-constitution of that body on an entirely new basis. The meeting was held on the 22nd ult. in the Molesworth Hall, and was a truly representative one,

JOHN M'CURDY, Esq., in the chair.

Amongst those present we noticed: Dublin—Thomas Drew, Sandham Symes, J. R. Carroll, A. E. Murray, J. J. McCarthy, Geo. C. Henderson, R. C. Millar, W. J. Symes, W. M. Mitchell, A. F. Collet, W. Fogerty, W. G. Doolin, J. L. Robinson, R. B. Phillips, D. Freeman, W. J. Welland, J. H. Owen, E. H. Carson, C. A. Owen, W. J. Fennell; and T. Hevey, Belfast; J. Langrishe, Kilkenny; R. N. Somerville, Galway.

Letters of apology for non-attendance were received from the following gentlemen, who also expressed opinions favourable to the plan suggested by the Institute:—Wm. Batt, jun., Belfast; M. H. Thompson, do.; John Lanyon, do.; R. Watt, do.; J. F. Mackinnon, do.; W. J. Watson, Newry; F. W. Jackson, Cork; S. F. Hynes, do.; A. and H. Hill, do.; R. W. Walker, do.; W. E. Corbett, Limerick; J. Kennedy, Londonderry; Wm. McElwee, do.; E. S. O'Callaghan, Killarney; J. Robertson, Kilkenny; James Bell, Dublin.

After considerable discussion on the several resolutions proposed, they were passed unanimously as amended.

Moved by Thomas Drew,  
Seconded by William Symes;

Resolved—

That it is of paramount importance to the architectural profession in Ireland that a Central Representative Body be maintained, for effecting by joint counsel and common action the following objects, viz.:—The general advancement of Architecture. The maintenance of the interests, status, and uniformity of practice of the profession. The maintenance of communications and friendly relations with other bodies associated for similar purposes.

Moved by James H. Owen,  
Seconded by William Fogerty;

Resolved—

That the constitution of the Royal Institute of the Architects of Ireland, as framed in 1839, has, from the changing circumstances of the time, ceased to fulfil the objects of such a Central Representative Body; but is capable, by a liberal reform and reconstruction of its bye-laws, of being converted into a practically efficient institution.

Moved by J. Rawson Carroll,  
Seconded by James Langrishe;

Resolved—

That the principal function of such re-constituted body should be the maintenance of a standing council to take cognizance *de die in diem* of all matters affecting the profession, to act as a board of reference in such matters, and to summon general meetings of the members, or others, from time to time, as occasion might require.

Moved by James H. Owen,  
Seconded by G. C. Henderson;

Resolved—

That the business of the Institute being carried on by honorary officers and at as moderate expense as is practicable, it should be one of its principal aims, by surplus of subscriptions (if any) and by donations, to create and augment a fund for such objects as the following, viz.:—The encouragement and promotion of the study of Architecture, by offering prizes or otherwise. The contributing to museums, libraries, art schools, or other institutions affording advantages to students of Architecture. Charitable or benevolent purposes connected with the profession.

Moved by J. L. Robinson,  
Seconded by James H. Owen;

Resolved—

That the re-constituted Institute should consist of members of one class only, embracing, under as few restrictions as are reasonable, all architects in recognised practice in Ireland, whether members of local societies or not.

Moved by J. L. Robinson,  
Seconded by James H. Owen;

Resolved—

That the Institute should reserve to itself the right to confer the distinction of Honorary Fellowship under exceptional circumstances, as a mark of special recognition of eminent services rendered by an individual to the profession of Architecture.

Moved by J. L. Robinson,  
Seconded by Timothy Hevey;

Resolved—

That the subscription of members be £1 per annum for qualification, with liberty to supplement same by further subscription or donation, in order to meet the objects as set forth in resolution.

Moved by William Fogerty,  
Seconded by E. H. Carson,

Resolved—

That a committee be named to revise and re-draft the bye-laws of the Institute in accordance with the resolutions agreed to, and submit same to a further meeting, and take such measures as may be necessary to carry out the objects of this meeting.

After the appointment of a committee to arrange future action, the meeting separated.

#### BOOKS RECEIVED.

*A Treatise on Slate and Slate Quarrying*, by D. C. Davies, F.G.S. Crosby Lockwood, and Co., London.

*Industrial Art* for February. Hardwicke and Bogue, London.

*The Spider of Duxton*, being the February part of *Once a Week*.

*Irish Temperance League Journal* for February.

#### HOME AND FOREIGN NOTES.

**SPELLING REFORM.**—The Lord President of the Council on Education received deputations at the Education Department, Whitehall, on Friday the 18th ult., at two p.m., from the London and numerous provincial School Boards, and from the Conference held at the rooms of the Society of Arts in May last. The object of the deputation was confined to requesting the appointment of a Royal Commission to inquire into the subject of English spelling, with a view to reforming it in the interest of education.

**"A BISHOP IN HIS PROFESSION."**—The Bishop of—determined to build himself a house, and begged a well-known architect to prepare plans. He afterwards changed his mind, and asked the architect what was owing to him for the plans. "One hundred guineas," was the reply. "Why, many of my curates do not get more than that for the labours of an entire year," observed the bishop. "Possibly," said the architect, "but I am a bishop in my profession."

**VALUE OF CITY SEWAGE.**—At a late meeting of the Guardians of the North Dublin Union, the agriculturist reported that he had been awarded two medals by the Royal Dublin Society, one of which was for the best farm produce exhibited at the late show of the society. The chairman said it might be well if the fact were more generally known, that the produce for which the medals were given had been grown on a preparation of city sewage as manure. Their attention had been directed by Sir

Alfred Power to the fact that such a preparation would be effective, and the result had proved that from the city sewage, matter could be prepared which was the most economical and successful of manures.

**QUALIFICATION OF A SCAVENGER.**—On Tuesday "Mike" was told that the accumulation of mud in the Dublin streets was owing to scavengers not being men of higher education, and that the Corporation had resolved in future to hold competitive examinations for the election of those public officers. The Civil Service Commissioners have been instructed to ask the following questions: Please solve the Eastern Question, and give your opinion on the Gladstonian system for the solution of this difficulty? If the mud accumulates at the rate of 2½ inches per day in Sackville-street, state how long can Nelson be expected to keep his head above water? If the Prefect of the Seine writes to the Corporation in '72, when may he, according to the rules of writing, expect an answer? This examination is open to all who can produce satisfactory certificates that they are perfectly incapable of working. Mike was told the above by a friend, but it may not be true. He took it, *cum grano salis*, down at the "Bailey."—*Drogheda Conservative*.

**FLOATING DOCKS.**—Floating docks have also been used with much success in places suited to their employment. The general principle of all these docks is that they can be submerged sufficiently to enable ships to float into their entrance, and that then by some means the water can be cleared from the dock, or from chambers within it, the dock lifting and carrying the ship out of the water. On the Tyne, a very primitive kind of dock is used for tugs and small vessels. It consists of a wooden tray-shaped box, with gates at one end. The dock gates are opened when the dock is aground at low tide. As the tide rises, the water enters the dock, and of course it remains aground. At high tide, the vessel to be docked is floated in, and as the tide falls she grounds on the dock. When it is low tide, the dock is freed of water, and the gates are closed; when the tide rises again the water cannot enter the dock, nor reach the vessel within it. The plan is only of very limited application. Ordinarily the floating dock has chambers to which water is admitted when the dock is to be immersed more deeply. When the ship is floated in, pumping power carried by the dock is brought into operation to clear the water from the chambers; the dock, with the ship upon it, is thus made to float at a higher level. In some cases, the water chambers are placed high on the sides of the docks, and filled with water by means of the pumps when the dock is being sunk more deeply; then, when the ship has been floated into place, it is only necessary to open valves in the water chambers, and to allow the water to escape. Time is thus saved when time is valuable, the operation of sinking the dock being proceeded with more leisurely. The most magnificent floating dock yet constructed was built some years ago at Millwall, and is now in use at the Royal Dockyard, Bermuda. Vessels weighing between seven and eight thousand tons have been docked there.—*Industries of Great Britain*.

#### TO CORRESPONDENTS.

**WASTE LAND RECLAMATION.**—A correspondent is informed that we have treated the question in several aspects over and over again, and probably in present issue he will find a note or two in the direction indicated.

**M.R.I.A.**—Many thanks, but we prefer to deal with the question on its merits and apart from any undercurrent of influences, which may or may not exist, for aught we know.

**ANOTHER RATEPAKER.**—Your letter is cancelled in accordance with your desire. Perhaps the Corporation will act as you state, and it is only fair that they should be afforded time.

**DUBLIN ARTISANS' DWELLINGS COMPANY.**—Will "A Workman" append his name to his letter? To have any effect it will need his name and address.

**C. H. (London)**—Solution of engine quite correct. See present issue.

#### NOTICE.

*We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.*

*Correspondents should send their names and addresses, not necessarily for publication.*

*It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.*

*Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42, Mabbott-street, Dublin.*

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## THE CASTLE CALDWELL CEMENT COMPANY, [LIMITED.]

We have already, both in our editorial and advertising columns, drawn SPECIAL attention to the above Irish company, and the advantages which are likely to accrue to parties having money locked up in banks (from which comparatively small returns are received in the shape of interest,) by investing their capital in this and like undertakings. We are given to understand, as we go to press, that the share list of the company is rapidly filling up, and must be closed on the 7th inst.

We have only time at present to supplement these few words with some extracts from our contemporaries.—ED. I.B.

*Freeman's Journal*, February 1st.

"The capital of this company is £10,000, in 2,000 shares of £5 each, and our readers are to note that the share list will be closed on 7th February, 1878. Applications should be forwarded without delay to J. A. O'Sullivan, 15 Lower Sackville-street, Dublin, or to the Munster Bank, Dame-street, Dublin. Cheques to be drawn in favour of the Castle Caldwell Cement Company, Limited, and crossed 'Munster Bank, Dublin.' We are informed that a large portion of the capital is already subscribed. The number of shares at the directors' disposal is therefore limited, and they will be allotted according to priority of application."

*The Irish Builder*, January 15th.

"The above company has been started under most favourable circumstances for carrying on the works already established at Castle Caldwell. The capital is £10,000, in 2,000 shares of £5 each. An opportunity is now afforded for the safe investment of capital in the production of a material for which there is a daily-increasing demand. It will be a matter of surprise indeed to us, if the share list is not speedily filled up, and include a large number of the builders of Ireland, who should be proud of having a chance of fostering an Irish industry like this."

*Irish Farmer*, 24th January.

"Flaming prospectuses of bubble companies in other parts of the British dominions, on the Continent and elsewhere, are flauntingly and unblushingly thrown before the public, and many a hard and honestly earned pound of Irish money has been swallowed up by the alluring and tempting bait, while speculations that might have proved of infinite service to the country and profitable to the shareholders have been left unheeded and uncared for. . . . As an Irish enterpriser we heartily wish it success, and every effort made to retain money in the country to develop and utilise its resources is deserving of success. From the testimony adduced, and what we have seen and learned respecting the quality of the goods, we judge, if economically worked, it must prove a financial success."

*Belfast Morning News*, January 21st.

After reviewing the position and prospects of the company, this journal goes on to say: "The investment appears a desirable one, and we wish the company success, particularly as we observe that its affairs will be managed entirely in this country. English companies can invest capital here, and turn it to profitable account. We hope it will be seen that this Irish company, at all events, will be able to do likewise."

Copies of Professor Cameron's lecture on "An Impervious Material for Damp Courses in Houses" (which material is manufactured by this company) and the Engineer's Report can be obtained free of cost on application to J. A. O'SULLIVAN, 15 Lower Sackville-street, Dublin.

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Contents.

|  | Page |
|--|------|
| ANENT BUILDING LABOUR AND BUILDING WORKMEN ..  | 49   |
| Dublin Railways, Tramway Extensions, and Street Traffic ..                             | 50   |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Sixteenth Part .. | 50   |
| Plans for Artisans' Dwellings, M. G. W. Railway ..                                     | 52   |
| The Royal Irish Academy and the Cunningham Trust Fund ..                               | 52   |
| "Furniture-Designing Architects" ..  | 52   |
| Notes on the Early History of the Irish Stage ..                                       | 53   |
| The Institution of Civil Engineers of Ireland—The President's Address ..               | 54   |
| Greek and Roman Art—Their Connexion with the Teaching of the Classics.—Lecture V. ..   | 57   |
| The Phonograph ..  | 58   |
| Railway and Tramway Projects ..  | 58   |
| Statues and Monuments ..   | 59   |
| Correspondence—The Recent Conference, and what should be its Results ..                | 59   |
| The Magdalene Tower, Drogheda ..   | 59   |
| The Royal Irish Academy ..   | 60   |
| Adversaria Hibernica—Literary and Technical ..   | 61   |
| The Key of a Round Tower ..  | 62   |
| The Late W. R. Stephens ..   | 62   |
| Sanitary Matters in Strabally ..   | 62   |
| Home and Foreign Notes ..  | 63   |
| Tenders ..   | 63   |
| To Correspondents ..   | 63   |

THE IRISH BUILDER.

VOL. XX.—No. 436.

ANENT BUILDING LABOUR AND BUILDING WORKMEN.

**A** VERY instructive paper was read a few days ago by Mr. T. Brassey, M.P., before the Royal Institute of British Architects, "On the Rise of Wages in the Building Trades of London." Much of what is contained in the paper is also applicable to the same branches of trades in this country. There are features, however, in the historic statement as regards the position of employers and workmen in London during the last quarter of a century which do not find an exact parallel here. In the huge and still rapidly-extending metropolis of the sister kingdom building operations of various kinds have been rife for a continuous series of years. On all sides of the outskirts of London new neighbourhoods have increased and are still increasing, and, to meet the modern demands for cheap and sufficient accommodation for those with limited incomes, a class of building speculators sprung into existence several years since, and are now, most unfortunately for public health and safety, too numerous. City and metropolitan improvements have also for some years back absorbed a large amount of building and cognate labour in London, and it is not to be marvelled at that the workman's wages should have gone on increasing.

The serious question, however, is whether the increase of wages has been unwarranted and excessive, and whether it has proved and is proving at present detrimental to the best interests of the country? Trades unions have been and are blamed for running up the price of labour, and by means of strikes and trade bye-rules to interfere with the freedom of contract between employers and workmen. It must be granted that all trades as well as those of the building branches have a perfect right to organise themselves into representative bodies, and every workman has the

same right to sell his labour at the highest price obtainable. What professions of higher social standing do, workmen have the same right to do.

There are other points, at the same time, to be urged in the employers' interest, which must not be left out of sight. There are large bodies of men—some good and many bad—who never join any trade society, or if they join do not continue long as paying or recognised members. Many of these men have, from time to time, accepted wages from employers under the rate stipulated by the regular trade bodies; and London employers complain that the unions bring their influence to bear upon the non-union men to prevent them from working under the standard wages, or coercing otherwise by threats to give up their work. A greater grievance even than this is urged by the employers. They say that, by present trade union rules, they are perforce obliged in many instances to pay a uniform rate of wages to good and bad men alike; while, if there were freedom of contract, the system of classification could be carried out, whereby highly-skilled workmen would be paid even more than they at present receive, and inferior workmen would receive just what their labour would be worth and no more, which in many instances would no doubt, according to their views, be much under what is called the standard or uniform wages of the present time. It is complained, too, on the part of employers that building workmen do not perform, in a given number of hours, nearly as much work as they did a few years ago, notwithstanding that wages have greatly increased, and the number of working hours has been considerably reduced.

The London employers of the present time would appear to be in favour of classification, or paying according to the workman's ability in each case, or otherwise resorting to the piecework system, or paying so much, according to results, per agreement or by measurement, for a certain piece or portion of work. The piecework system, although it is at present adopted in several branches of trade outside the building trade, does not find, and has never found, much favour among building workmen as a whole. Among speculating builders, and under the subcontract system in the same field, the piecework system exists to a large extent, and the direct consequence is the turn out of a very large amount of slop work, or what is known in London as "scamped" work. It would not be the interest of the community, city or country, or respectable employers, to see the area of piecework under such a system enlarged, for it would be detrimental to the best interests of all except unprincipled speculators.

In Mr. Brassey's paper much food and thought for impartial reflection is given, and there are ample materials for drawing conclusions. If some points bear against the action of workmen and trades unions, there are several other points which we must candidly admit tell in their favour. Although it is shown that the wages of building workmen have rapidly gone on increasing during the last quarter of a century, it is shown also that the price of the necessaries of life and home comforts have also greatly increased, articles of consumption being in some instances double. Beef, mutton, pork, fish, fowl, vegetables, cheese, butter, eggs, &c., all have greatly gone up in price, and

correspondingly so have house rents. The increase in house rents in London is, of course, far more marked than the increase of house accommodation in Dublin. Building workmen of the respectable class in the sister capital are better housed than they were a quarter of a century since. If wages have in some instances advanced 50 per cent., the cost of living still renders it difficult for the wives of respectable artisans to maintain the improved social position that modern reforms have rendered it incumbent for their families to hold. High wages, after all, is not an unmixed good; for what boots high wages if the common necessities of life also rapidly increase. Advantages exist for workmen at the present time, and for the future, if they only would be wise enough to avail themselves of the facilities to their hands. Well managed co-operative stores could be established and conducted all over the kingdom in the interests of working men. Some of these co-operative organisations exist at present in the north of England, and in other districts, and we see no reason to the contrary why workmen should not help themselves as the Civil Service are helping themselves by the trade patronage, of high and low classes, including of course the great working population. More than two-thirds of our provision shops and cheap grocery and huxter establishments exist for the accommodation of the working classes, and they are the chief support and the best customers to them in the long run. The needy are always in want of the necessities of life, and day by day and often hour by hour are constant purchasers. Being obliged to buy small quantities, they pay dearer for an inferior article than the well-to-do who have ready money, and who can buy in largely.

There is one blot, however, which, as friends instead of foes to the working man, we must openly declaim against. Too much spirituous and malt liquors are consumed, and it is painful to contemplate the nightly, and particularly the Saturday night, scenes and exhibitions to be witnessed in our gin palaces and public houses. More than a good third of the hard-earned money of working men is consumed in drink. Moderate refreshment is one thing, but habitual consumption of useless and health and body-destroying drinks is altogether a different matter. In Dublin, as well as London, no small portion of the wages of building and other workmen is wasted on debasing liquors.

A retrospect of the rise of wages in the building trades of Dublin, and a comparison drawn between the position of workmen in this city thirty years ago with their present position, would exhibit some strange contrasts. Our experience and knowledge of the Dublin building trades, extending over several years, enable us to say that in wages there has been a great increase; but we regret to have to admit that there has not been on the other hand any marked advance in the social position of workmen as a whole.

Of course this city does not stand on all fours with the great and extending metropolis of London. Building industry has been rife here, but there have been alternate periods of depression as well as of briskness. Very few large works of metropolitan improvement have taken place in Dublin during the last thirty years. True we have had railway works and harbour and other works, and during the time the southern townships have sprung up and extended. Building opera-

tions, after all, were slowly carried out, signalled only in some few instances at stated periods by occasional spurts. These exceptional periods were availed of by building workmen to secure an increase of wages, and they generally succeeded.

We remember in the "Famine Period" of 1847, the wages of carpenters, masons, bricklayers, &c., were very low, compared with what they are now. The regular society men received at highest about 24s. per week, working the six days of the week from six till six. Good workmen at that period were to be had at 20s. a-week, and many non-society hands we have known to work as low as 15s. a-week for very hard task-masters, who made handsome fortunes before they retired from business.

The position of the building workman of thirty years ago in Dublin on the score of wages and hours of work was not a pleasant one, particularly with the small class of employers. The pay day was not rarely the most unpleasant day of all, for several instances could be produced showing that workmen had often to wait in their employers' yards or outside their hall-doors till 9 or 10 o'clock of a Saturday night before they received their weekly wages. The system was a most censurable one, for it was full of dangers. While waiting for their money the workmen were prone to frequent the nearest public house and spend their money in advance for "a drop to keep out the cold." When paid their wages there was another visit to the publican "to square the running account," and next followed on the part of several workmen a reciprocal treat all round. The workman's wife often made her Saturday's market at 11 o'clock at night, and sometimes on Sunday morning; and small indeed was the balance she had to receive. Perhaps the Sunday coat or other article had to be lifted from the pawnbroker's, but the inevitable "popping" or going up the "spout" took place after breakfast on Monday morning again, repeated again and again weekly for "all the year round."

The times are happily changed, and though some sad drawbacks still exist in Dublin, building workmen have socially improved, and wages have gone up nearly double what they were thirty years ago. Building "strikes" in Dublin have never been much protracted, and a few weeks at most have been sufficient to establish amicable relations between old respectable builders and their workmen.

We are not quite certain whether Dublin employers have the same complaint to make against their workmen as the London ones make against their hands, in respect of men doing less work than they formerly did. Here, as well as in London, the introduction of machinery (although limited in its range) has shortened many processes in the building branches, and lightened the heavy labour that had formerly been performed by workmen. Building jobs do not last as long for workmen as formerly, and they are obliged to shift about in search of employment more often, except in instances of wealthy firms who always keep on a few constant hands in the slackest season.

As advocates for a fair day's wages for a fair day's work, we think it is the duty of all employers to see that they get that for which they pay. It is dishonest—and there is no softer or fitter word for expressing it—for workmen to murder time, or to do that which

is known among themselves as "slinging the hatchet," particularly when they are fairly remunerated for a day's labour. Hard task-masters no doubt there are, and while human selfishness exists there will always be; but a conscientious workman need not fear so long as he performs his duty. We are not advocates for a hard-and-fast system of classification, for there are many workmen quite competent and able to earn the standard rate of wages, though they may be slower than other hands, and may be a little deficient in performing some pieces of the varied work appertaining to building construction and fittings.

It is the duty of employers to select the best men, and weed out botches, who sooner or later are certain to find their own level, and be obliged to accept just what they are worth. A uniform rate of wages for a number of average workmen is fair enough. It would be difficult to find in any large town several hundred workmen of equal ability. Some will excel at one description of work, others at another. It is the province of employers or discriminating foremen to give workmen, as far as is possible, that class of work to execute for which they are best fitted. In high class work the object is quality; in ordinary work requiring no more than common skill, quantity may be the object; and if the work in large contracts is adapted to the abilities of the workmen, there need be no loss incurred, for each workman may give in results a fair return of labour for the wage he receives.

Our Dublin building workmen of the younger generation are not advancing themselves as they should. The drawbacks to improvement that existed thirty or twenty-five, or even twenty years ago, no longer impede their way. Present-day apprentices or youths at the building and other branches, have now facilities for obtaining a practical and technical education. Both in art and science and handicraft subjects, treatises are many; and with a little amount of self-exertion young workmen may continually improve their position, and need have no fear for the future, for the educated and skilled workman will seldom be long out of work. As a parting word for the present, we would say to all manual workers—never be ashamed of your calling, a skilled trade is a dignity, and a trade any day is as respectable as any clerkship, whether it be in a city banking firm or a merchant's office. Whoever carries a trade, well learned, at his fingers' ends, carries his own salvation bodily and mentally, and whoever pursues it honestly and efficiently in the possession of health and bodily strength will never end his days in prison or workhouse. *Labor omnia vincit.* Of a verity, labour conquers everything, and when it is conscientious on earth, the worker will breathe his last with no misgivings as to hereafter.

#### DUBLIN RAILWAYS, TRAMWAY EXTENSIONS, AND STREET TRAFFIC.

In the discussion that took place in the Corporation some days ago *re* the Dublin, Wicklow, and Wexford Railway Company's proposed tramways, Mr. Brooks and Mr. Norwood told some unpalatable truths. The Westland-row Station, as long as we have known it—and that is a good many years—has been one of the most uncomfortable and ill-arranged stations in the king-

dom. The station, as a station or a building, is no credit to Dublin, neither are the intermediate stations, with few exceptions. The Dublin and Kingstown portions of the line is the oldest railroad in Ireland, and certainly if time brings experience and knowledge the directors should have long years since made their line and everything appertaining to it the best in the country. This railway company does not afford proper facilities to the public, and the accommodation and comfort is far below what can be had on loop or purely local lines in the sister kingdom. The Dublin and Kingstown line may be said in one sense to be a double main line, for Wexford is not its only termination. It is the direct way to London—a mail way and a railway combined. Though the railway connection ceases at Kingstown Harbour, so far as a journey to London is concerned, still the company secures the passenger traffic and the benefits arising from it. It is not at all improbable that the Dublin and Kingstown Company will soon see the end of their monopoly, for it is looming in the distance. The mail boats once went from Ringsend and the Pigeon House, again from Howth, and the improvements now making in the Port of Dublin will bring the mail service to the North Wall direct. The Dublin and Kingstown Company know perhaps what they are about, so do other people. The directors for long years have had good harvests, but the passengers on their line have never been allowed to share in their prosperity to any appreciable extent in the reduction of fares or in improved accommodation.

There are a number of railway and tramway bills at present before Parliament, in some of which the Dublin, Wicklow, and Wexford Railway are interested. If railway companies will not perform their obvious duties, they have no right to expect that corporations and local boards will make concessions at the cost of the ratepayers for the sole benefit of the companies. The letting value of the privileges or monopolies sought to be obtained are worthy of careful attention on the part of the city. We do not wish to see trade or legitimate traffic restricted; but if "property has its duties as well as its rights," public rights are in themselves the property of the people, and should suffer no curtailment by any process of railway wrong-doing.

#### NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

##### SIXTEENTH PART.

AMONG the worthy representatives of the publishing and bookselling trade of Dublin, carrying on their business from its establishment during the days of the Irish Parliament down nearly to the middle of the present century, was Richard Milliken, afterwards Milliken and Son, booksellers to his Majesty and the University of Dublin. In 1796, we find John Milliken, whom we believe was the first of the name in the trade, established at 32 Grafton-street, and in 1810, Richard Milliken, whom we believe was his son, was carrying on the bookselling business at 34 Grafton-street. Richard Milliken some years afterwards occupied the house 104 Grafton-street, and was the predecessor of the firm of Hodges and Smith alluded to in our last paper. Besides doing a large bookselling business, and being publisher of works printed at the University Press, Milliken and Son published various works from time to time, and were the sub-publishers and agents of some London houses. Our brief notice of

the house of Hodges and Smith has, since our last notes, brought forth the following communication from an old reader of this journal, whose recollection of Dublin events is fresh, and who is otherwise entitled to be heard. After some preliminary remarks our respected correspondent says:—

"Now without doubting for one moment the correctness of there being a Gilbert and Hodges in Dame-street (although I don't remember such a house), I can without any doubt state that they were in no way the precursors of the house of Foster and Figgis, of Grafton-street (old Hodges has been dead for many years). 'Hodges and Smith' were never in Dame-street, but always from the time when Hodges left Cumming's, on Lower Ormond-quay, till they removed to 104 Grafton-street (about the year 1844) at 21 College-green, and never till 1844 were they the University publishers. The University publishers were Richard Milliken and Son, publishers to the King, 104 Grafton-street; and it appears a strange lapse, in such a very interesting series of papers, to leave out the name of such a very old and respected house. A reference to any person who remembers George IV.'s visit to Ireland will enlighten you as to Mrs. Milliken parading her seven beautiful daughters on the balcony of 104, and the Arms of the University are there to day as they were 57 years ago. Hodges served his time to Cumming; he set up about 1820 with a partner named Goselin, but in 1823 dissolved, and took up with young Smith, who had money, but was never brought up to any business. Smith married old Crofton's widow, of Ashford, Co. Wicklow, and then left the shop to Foster, who had been for many years behind the counter."

Concerning the above communication all we have to say is this, that it was not our intention to omit the respected name of Richard Milliken from our notes. Indeed we had it docketed, and it would have received due notice before we concluded our necessarily brief notes about the present century chief representatives of the publishing and bookselling trade. We were not aware, or rather we did not remember, that there were two distinct "Richmonds (or Hodges) in the field"; but the fact is clear enough that the firm of Gilbert and Hodges, booksellers, existed for several years in the earlier part of the present century at 27 Dame-street. We have no particular leanings, nor would we wish to exclude the mention of one noteworthy firm to the advantage of another. Our object was, and is, to act impartially, and to notice the chief representatives of the trades treated, it being impossible from the nature of our notes and other circumstances already stated to include all, or even to furnish detailed particulars of the personages or businesses of those noticed. The story told by our correspondent of Mrs. Milliken's "seven beautiful daughters" we believe to be true, except that the version that we heard of it in our schoolboy days, as told by our parents and others, gave the number as "twenty-one beautiful daughters" all paraded in "apple pie" order on the balcony when the king was passing by the worthy old bookseller's shop. We must say, however, that we doubted the story of twenty-one, and we always accepted it as an enthusiastic exaggeration that was made up by some Dublin wit, who divided the year of the king's visit to Dublin (1821) in twain.

Among the Roman Catholic booksellers and printers and publishers, not already mentioned, who carried on business in Dublin in the early years of the present century, were—Hugh Fitzpatrick, Richard Coyne, and at a later date Richard Grace. Fitzpatrick commenced business as a printer towards the end of the last century, and at the founding of the college of Maynooth, 1795, he was appointed its first printer. He resided at that time, and some time previous, at 2 Upper Ormond-quay. Some odd books and pamphlets on current public questions of the day were issued from his house. Richard Coyne, of Capel-street, in the present century, we believe, succeeded Fitzpatrick as printer and bookseller to Maynooth College. He issued several Catholic prints, publications, and literature connected with his church, and an edition of the Douay Bible, and various prayer books were published by him from

time to time. Richard Coyne kept up the old customs in dress and habits till the last; and we remember the venerable old representative oft standing at his shop door, with his silvery hair, his frilled shirt, knee breeches, and silvery shoe buckles, a living memorial of an age whose customs, costumes, and manners were almost of the long past.

Richard Grace was established for several years in the present century in Capel-street; he also, like Coyne, dealt in Catholic literature, and, if we remember aright, issued an edition of the Douay Bible, prayer books, and other Catholic publications. Between 1830-40, and some few years later, the business of Coyne and Grace were, we should think, at their best; but the half century had passed before the house of Richard Coyne closed. The venerable Catholic bookseller and publisher died at an advanced age.

The name of Philip Dixon Hardy was associated with the printing, publishing, and bookselling trade of Dublin for many years in the present century. Hardy commenced the printing business between the years 1820-30. He must be written of in the character of author, printer, publisher, and bookseller, in each and all of which he figured. About the beginning of 1830 he printed some literary ventures in the periodical line. After the publication of the first and a few numbers of the second volume of the original *Dublin Penny Journal* by John S. Folds, of Bachelor's-walk, the periodical passed into the hands of Hardy, then of Cecilia-street, and was conducted by him till its cessation in the year 1836, ending with the completion of the fourth volume. The printing and publishing business of Hardy was carried on for several years in Cecilia-street. He subsequently removed to larger premises in Sackville-street, between the Gresham Hotel and Gregg's-lane, where he carried on the bookselling and publishing trade under the title of "Philip Dixon Hardy and Son." He retired from the trade some seventeen or eighteen years since. Hardy was the author of some works and tracts of a religious bearing, apart from his contributions to the magazines or other publications he conducted or printed. Hardy was a man of active business habits, small in stature, and sometimes extreme in his religious views, and took more than ordinary interest in certain religious societies and kindred organisations connected with the Protestant communion. He is, no doubt, well remembered by many of our still living citizens. He died at the advanced age of 81, at his residence, 2 Frankfort-place, Upper Rathmines, on New Year's Day, 1875. He was probably at the time of his death the oldest, or nearly the oldest, representative of the printing and publishing trade in Dublin.

Thomas Webb, who died on the 5th of October, 1873, was a very old representative of the bookselling trade. He commenced business in the year 1816, and for fifty-seven years carried on his business in the same street. He saw the uprise and witnessed the extinction of not a few flourishing printing, publishing, and bookselling houses. Webb was one of the first, if not the very first, to introduce the circulating library system into Ireland, and was instrumental in largely developing it. He also introduced the foreign element into it, and brought together an extensive French library, and by no means an indifferent German one. Other Dublin booksellers before him in the last century and present imported foreign works, but not for circulating library purposes, as far as we are aware. In connection with the trade of Webb, the sale of books for juvenile readers was a speciality. The veteran bookseller died at his residence, 47 Lower Sackville-street, on the 5th of October, 1873.

Nearly opposite to Webb's bookshop, at 11 Lower Sackville-street (corner of Lower Abbey-street), G. Tyrrell, bookseller, carried on business for several years before the middle of the present century. He appears to have done a fair trade for some years, and was the publisher of occasional works. "Dublin Delineated" was issued by him in

1837. It was a kind of itinerary pointing out the leading streets and the principal objects of attraction—public buildings, statues, &c.—in Dublin. It contained twenty-six well-engraved views, accompanied by brief descriptions. Several of these views were from drawings by the late George Petrie, the Irish author and distinguished antiquary.

The late John Cameron, of the firm of Gunn and Cameron, although a newspaper proprietor, is entitled to notice otherwise for his connection with Irish literature. The clear-headed, deep-sighted, and persevering Scotchman, whose name was associated with the establishment of the *General Advertiser*, now nigh forty years ago, was also, in connection with his partner, the printer and publisher of that creditable literary effort, the *Irish Penny Journal* of 1840-41, edited by Petrie, and contributed to by O'Donovan, Carleton, Mrs. Hall, Martin Doyle (i.e. Rev. W. Hickey), Clarence Mangan, John Keegan, Lover, Richards, Edward Walsh, Thomas Ettingsall, Rev. James Wills (the J. U. U. of the *Dublin Penny Journal*), and others. Only one year's volume was issued. The journal had a better circulation in some towns in England than in the large cities of Ireland. It was well printed, and the woodcut illustrations were equal to the average of the time. Cameron, during his life, took an active part in the struggle for the repeal of the obnoxious taxes on knowledge, and was honorary secretary to the association started in Dublin to abolish the paper duty. He also took an active part in the agitation for the abolition of the compulsory stamp upon newspapers. The history of the establishment of the *General Advertiser*, and the journeys and labours of Cameron in connection, would form a remarkable chapter in Irish newspaper enterprise—redounding, however, much to the credit and industry of the Scotchman.

It may not be generally known that Cameron was also the proprietor of the *North British Daily Mail*, a successful paper published in Glasgow, and at present conducted by Dr. John Cameron, M.P., the son of the former. In 1853—the year of Dargan's Dublin Exhibition, the *Exhibition Expositor* was published by Gunn and Cameron. The publication was well got up and well written. John Cameron died from the effects of an attack of apoplexy on the 22nd of October, 1873, in the sixty-ninth year of his age.

R. M. Tims, of Grafton, Grant, Bolton and Co., of Dame-street, and Martin Keane, who carried on business for long years in College-green, were all respectable and worthy members of the bookselling trade. Porter, established in Grafton-street for several years in the present century, if we remember aright, was the direct representative of William Porter, printer and bookseller in the days of the Irish Parliament, and living in 1786 at 12 Skinner's-row (Christ Church-place). A few years before the commencement of the present century, William Porter removed to 69 Grafton-street. Living and carrying on business simultaneously with the first William Porter, of Skinner's-row, there was James Porter, bookseller, at 122 Abbey-street, but whether any relation to the former, we are unable to say. William Porter did a good trade in books, and some pamphlets and other works from time to time issued from his house in the last and present century.

The publishers of some of our periodical serials in the present century were large book importers and booksellers, and in some instances printers. Before the establishment of the *Dublin University Magazine* in 1833, the native monthly or weekly serials started in the preceding part of the present century were not long-lived, if we except Cox's *Irish Magazine* and Dr. Brennan's most eccentric and irregularly published *Milesian Magazine*, which was governed by laws of its own or its conductor. The *Milesian Magazine* was a professed monthly, but there are no terms to hand to express the order of its fitful appearances from 1812 till its last issue about 1825. It was a political and literary magazine, started, no

doubt, to help some party purpose. Dr. John Brennan broke ground in the last century in the pages of the *Anthologia Hibernica*, and, we believe, in other serials, as a poet or rhymist, and some effusions of small merit and not very delicately-phrased epigrams will be found in the magazine alluded to. In the earlier volumes of Cox's *Magazine* will also be found some of Brennan's effusions, new or reproduced. The writer of these papers understands that Dr. Madden is of opinion that the mission of the *Milesian Magazine* was a Government one, and that it was started to bring the *Irish Magazine* of Cox and the Catholic leaders and committees of the time into disrepute. *En passant*, however, the writer may here observe that though he has already incidentally alluded to Dr. Madden's volumes, he has not had the pleasure up to the present moment of ever reading his work on the "Periodical Literature of Ireland."

The *Cyclopaedia Magazine* and *Dublin Monthly Register* (1808), the *Hibernia Magazine*, *Dublin Monthly Panorama*, and the *Monthly Pantheon* (1808-9), we believe extended to no more than two volumes each. These monthly serials were literary and political, and made biography of public men a speciality. The *Pantheon* contained plates, and the *Hibernia* had numerous portraits, maps, and folding plate caricatures, &c. These magazines, on the whole, apart from their objects and party warfare, were well got up and respectable specimens of Dublin printing and publishing for the period. The *Dublin and London Magazine*, published in the third decade of the present century, was short lived but well written, and had some articles of an interesting national character. The *National Magazine*, of Wakeman, about 1830-1, lived only through two volumes. This monthly periodical is noticeable from the fact that it contained some of the early productions in prose and poetry, stories and essays, &c., from the pens of Farley, R. G. Johnson, Lover, and Carleton, and other native writers. Wakeman published in 1833 a fine edition, in five volumes, of Carleton's "Traits and Stories of the Irish Peasantry." Wakeman also issued several other works of national character, and his house deserves honourable mention as a respectable publishing and bookselling one for several years in Dublin.

Before 1840, apart from dictionaries, grammars, Irish tracts, &c., published for the purpose of encouraging the study of the Irish language, some serial ventures were made, but were attended with very poor success. One of these magazine attempts is worthy of a passing note.

In 1835, Philip F. Barron started a weekly magazine called *Ancient Ireland*, for the special purpose of reviving the cultivation of the Irish language. Only five numbers of the magazine appeared. Barron also brought out some Irish primers and Irish sermons, with literal translations. These were the works for which Christie, alluded to in our former paper, cut the Irish character.

Contemporaneously with Barron's venture in 1835, the first *Dublin Penny Journal* was appearing, though nearing its final volume, and we must conclude that the time seemed favourable enough for the effort. The consideration, however, arises whether the people, as a body, were educated or interested, or patriotic enough to support the effort made by Barron.

The age of the penny magazines, as journals, had arrived, but we fear the people were not prepared enough to appreciate the advent of a cheap and wholesome literature unless it was intensely political, doctrinally belligerent, or extremely diverting. The story teller was still in request, and the poor scholar was not yet extinct; national prejudice reigned supreme, and pugnacious patriots were more fond of cudgelling than scholaring.

CORRECTION.—In list of those who attended the late Conference, the name of "James" Langrishe was printed instead of "Richard."

## PLANS FOR ARTISANS' DWELLINGS, M. G. W. RAILWAY.

IN our present number we illustrate the design submitted in competition by Mr. John L. Robinson, of 198 Great Brunswick-street. In laying out the ground he formed an ornamental square or pleasure-ground, with houses ranged round three sides, the fourth being open to the North Circular-road. There is a frontage for eight houses of the better class to the Circular-road, with gardens in front, and the two sides of the square are faced by two terraces of thirty-one houses each. At the end of the square is a workmen's club or reading-room, which may be used as a lecture-hall when occasion offers. There is also a site for a co-operative store and a shop. There are 91 houses shown on the plan, and, if considered desirable, the site of the workmen's club would be available for nine more, making a total of 100 houses, the maximum number in instructions in which case on the site of the shop a workmen's club might be built. All houses have 18 ft. frontage, and each plot a depth of 75 ft. Three plans of houses were submitted containing respectively, four, five, and six rooms, each, with sculleries, pantries, coal stores, and closets. The estimated cost of houses, ornamental grounds, roads, and drainage, was £21,130.

In the plan submitted by Mr. J. H. Bridgford and Mr. G. P. Beater, and of which we gave an illustration in our last number, the authors suggest co-operative corner shop houses or marts, schools and lecture-rooms, as also clock tower, gardens with fountains and shrubberies. In laying out the site they have dwelt on three primary points: aspect, isolation, and drainage. Advantage has been taken of the south and west aspects to run along some semi-detached blocks, with gardens front and rear. They have been so impressed as to the important matter of "isolation" that in laying out the site they have completely detached some "special" houses, and made most of the others semi-detached. They have placed the closets, ashes, and coal away from the houses, but clubbed together in their respective yards. The provision as to sewers and traps has been carefully considered.

## THE ROYAL IRISH ACADEMY AND THE CUNNINGHAM TRUST FUND.

THE draft scheme of the Academy having been adopted at the late meeting, adverse criticism would now be out of place. We hope, however, the final scheme, if it be still possible to modify it in one or two points, will be made more elastic, so that the objects of the Academy at its first formation (which objects are still sound in their entirety) will be carried out. We desire to see none of the really good papers read at meetings of the Academy remaining in manuscript; consequently in the absence of sufficient government grants or donations otherwise, we go with the council in applying a portion of the moneys arising from the Cunningham bequest to the publication of the "Transactions." We do not, however, hold with some of the members of the council that sums given in aid of industrious labourers in the fields of science, of archaeological and Irish antiquarian research, and illustration, can be looked upon in the light of alms-

giving or acts of charity. For what do such institutions as the Royal Irish Academy exist, but for promoting and encouraging the objects stated in its charter? So long as moneys are judiciously expended, and that discrimination is shown in the selection of those really deserving of encouragement and reward, the council of the Academy need not fear the issue. The Royal Dublin Society would never have prospered or existed so long as it has as a native institution had its various councils in former times not been generous and discriminating in its awards to native artists and others. In former years the Royal Irish Academy made a few very deserving awards. The history of the Academy is the history of nigh a century, and we hope it will live more successfully through the twentieth century than it has through the nineteenth. It is not because in the course of five or seven years past that competitors for the awards of the Academy have not reached to the high standard of excellence expected, that a commendable arrangement should be given up, and a radical change made. Intellectual activity cannot at all times be expected in fields of study represented by the Academy. There will be seasons of stillness and sluggish effort in literary and scientific fields, as well as in trade and manufacturing ones. Reward and encouragement in metal or medals stimulates industry; and prizes in money will, in some instances, be found more serviceable than honours, though the fact of awarding a sum of money to a struggling student need not interfere with his claim to distinction otherwise, when the opportune time has arrived for his recognition. These few remarks are made in a kindly spirit, and we hope they will be accepted in the same.

## "FURNITURE-DESIGNING ARCHITECTS."

OUR London contemporary, the *Furniture Gazette*, in quoting a portion of our notes on Cabinet-making and Upholstering Architects in our issue of the 15th ult., observes:—

"What will architects say to the above cutting criticism which emanates from a journal which is supposed to represent the interests of their profession? The above effusion would almost lead one to believe that there must be some personal element in the matter, to have led the writer to indulge in such strong language concerning furniture-designing architects. Perhaps some of our architectural readers will be found anxious to take the matter up."

Perhaps it will not be amiss to assure our contemporary and all others whom it may concern that the writer meant nothing personal, and that his remarks were intended for general application. The language used may have been strong, but it was by no means unjust. We plead for health before mere decoration, and fitness before fitfulness. Give us first a well-constructed sanitary dwelling, and the architect who cannot give us that we do not care a fig for his abilities, his nondescript Gothic and hybrid classic monstrosities in furniture and decoration. If we are to have art, let it also be of a healthy description within the dwelling as without it, and let the fungus dilettanteism that is now cropping up for the second or third time in the British Islands, be relegated, once and for all, to the limbo of the utterly squelched and irrecoverable.

We desire to see our building craftsmen and our cabinet-making and furniture craftsmen art workmen as well as handicraftsmen, and architects will have nothing to fear but much to gain by the uprise of such educated and skilled auxiliaries.

Elsewhere in our pages some more remarks bearing upon the above subject will be found.

NOTES ON THE EARLY HISTORY OF  
THE IRISH STAGE.\*

DESPITE of a strong company, comprising several of the most noted and promising actors and actresses of the day, every effort made by Barry at the commencement of the season proved unsuccessful. An engagement concluded with Sheridan about this time turned out more serviceable to the fortunes of the Crow-street manager than his other ones. The four first nights of Sheridan's appearance the receipts were:—Hamlet, £171 19s. 7d. (Irish); Richard, £113 15s.; Cato, £141 16s. 2d.; Hamlet (second time), £148 9s. 5d. The business in general appears to have been very bad at the time. "Love in a Village," which was repeated for five nights, never brought in more than £30, sometimes falling as low as £14;—indeed some night's receipts were known to fall as low as £10. It may be judged from this statement how difficult, if not impossible, it was for Barry to hold together his forces under such a depressed state of business. The engagement of Sheridan while it lasted materially helped Barry's position, but, notwithstanding the temporary ray of brightness, it was out of Barry's power to extricate himself from his difficulties, and at the conclusion of the winter season he was involved in pecuniary embarrassment that completely submerged him.

At Smock-alley, Mossop held his ground by the superiority of his bill of fare, and attractions previously alluded to. It is believed that at the time, despite of the bold front he maintained, his pecuniary position was far from being cheering. Mossop introduced a number of new performers, and among them a Miss Browne, a daughter of Sowden, who it is said possessed an elegant figure, and was a pleasing singer. This actress appeared both in tragedy and comedy at Smock-alley. Miss Browne subsequently became the wife of Jackson, a gentleman of some abilities as a writer and actor, and who made his first appearance on the Dublin stage at the period of which we are writing. Mr. and Mrs. Jackson remained in Dublin several years, and acted with credit. Jackson afterwards purchased the Edinburgh theatre and patent from Ross, the then patentee, where he continued for some years as a manager. Jackson's wife was also for some years a well-known actress on the Covent-garden boards.

The once famous George Alexander Steevens visited Dublin for the first time about this period, and commenced his then remarkable "Lectures upon Heads" in the little theatre in Capel-street. The novelty of Steevens' lectures brought good houses for some time. As an actor Steevens had not much merit. He was born in Holborn, London, and spent several of his early years as an actor in itinerant companies. Baker's work described him in the last century as an actor without any merit, but that he was fortunate to hit upon a plan which enabled him to place himself in independent if not affluent circumstances:—"He composed a strange medley of sense and nonsense, wit and ribaldry, adapted to his own powers of performance, called *A Lecture upon Heads*. With this he travelled about England exhibiting at different towns, and was uncommonly successful in his undertaking, &c." Hitchcock thus writes of Steevens: "Though not possessed of much merit as an actor, yet he certainly delivered his lectures with vast humour, variety and judgment; reputation and success attended him in both kingdoms, and in the course of a few years he acquired an independent fortune, solely by the repetition of this singular species of entertainment. Steevens was the author of a novel in two volumes entitled "*The Adventures of Tom Fool*," and was a contributor to periodical literature, and is said to have written

essays in the *Public Ledger*, "*Beauties of Magazines*," &c. This odd public entertainer of his day was also the writer of four plays. We can easily suppose his amusing lecture "*On Heads*" in Dublin proved entertaining if not instructive to the College boys of that day, and the "bucks" and bloods, and bravos and bullies, that signalled the high and low life of the old city in the eighteenth century.

The year 1767 witnessed Mossop the master of the theatrical situation. After a prolonged struggle of seven years of alternating glory and agony, fitful success and fearful despair, Barry was obliged to surrender. Although in the prime of life, he was wrecked mentally and bodily, for he had not only ruined himself, but he had ruined many others connected with him. His successful rival Mossop, although his finances might be low, yet he had now the field to himself, and he forthwith commenced operations for obtaining the possession of both theatres. Mossop's dream of the future was, no doubt, bright; but in a little while he was fated, like his predecessor, to meet with obstacles and disappointments. Mossop continued playing at Smock-alley for a month, while Crow-street theatre was being repaired. During this time Mrs. Fitzhenry was acting at the former theatre, having returned from London. This actress was a great assistance to Mossop, and, being a favourite with the citizens, she brought good houses.

On the 7th of December, 1767, Mossop stood before his Dublin patrons as chief and sole manager of Crow-street. He appeared in the character of Richard III.; but, notwithstanding the great changes that had occurred, public curiosity does not appear to have been much evidenced on the occasion. Crow-street on the first night of Mossop's appearance was not crowded, and the receipts reached only the sum of £82 15s. 4d. Irish money. Several tragedies, however, followed, which brought money to Mossop's exchequer, the "*Orphan of China*" on one particular night bringing £140 odd. Mr. Brown in comedy and Mrs. Fitzhenry in tragedy gave satisfaction, and at the benefit of the latter testimony was afforded of the public appreciation in which she was held. In the Countess of Salisbury on her benefit night Mrs. Fitzhenry's receipts were £201 odd, the largest sum up to that time received on one night.

In February, 1768 the "*Orphan of China*" was revived for the special purpose of introducing a new and young candidate to public favour. Castalio was the character selected—a favourite one of Barry's. The young theatrical adventurer was Clinch, who, in some years afterwards, won a conspicuous place in the rank of native actors at Crow-street. The first night of Clinch brought in £133 odd, and for several weeks a number of respectable audiences attended. The next characters of the young actor were Jaffier, Lothario, Essex, &c., each of which drew fair houses.

Speaking of Clinch's first appearance, Hitchcock writes:—"Arduous as the task was, our adventurer exceeded the most sanguine expectations of his friends, and impressed the town with the most lively hopes that in this youthful hero they had found an excellent substitute for their departed favourite" [Barry]. . . . "The public certainly had every reason to expect a valuable acquisition in him. His figure was excellent, his face manly and expressive; his voice strong, clear, and impressive, possessed of great variety, and many of its tones bore a great resemblance to their much-loved Barry's."

Clinch was of a respectable family and connexion, and had received a liberal education before taking to the stage; and these, among other matters, conduced to his favourable reception at first. He went on improving, and afterwards occupied the foremost position on the Dublin boards, playing several tragedies with the celebrated Mrs. Siddons.

When Mossop was in full possession of the town, after the departure of Barry, he neglected no opportunity of adding to the

novelties and of securing the services of the most attractive performers. The charming Catley was again engaged for six nights, and added to her previous reputation. While Mossop was busy widening his realm at Crow-street, Sheridan was delivering a course of lectures on education, oratory, and elocution at the Music Hall, Fishamble-street, and towards the end of the season he was prevailed upon by the former to perform three of his principal characters—Hamlet, Richard, and Cato. These performances proved successful. In the meantime Brownlowe Forde had made his appearance at Crow-street in *Serub*, Mossop representing the elegant and fashionable Archer. Forde subsequently appeared in other characters, including Sir Joseph Wittol, Brisk, &c.

Towards the end of the later season of 1768, King and Mrs. Abington again visited Dublin, appearing at Crow-street in most of their favourite characters. We are told that the Lord Ogleby of King was at this time exceedingly popular. "It was justly esteemed one of the finest pieces of acting the world ever beheld." Writing in 1794, Hitchcock thus speaks of King's acting of Lord Ogleby: "For many years I have had the pleasure of seeing this truly excellent actor in this part, and can with justice affirm that for correctness of conception, spirit of execution, and, in short, for every requisite to constitute a finished performance, I never beheld a more perfect representation than his Lord Ogleby. The whimsical traits of the Old Man of Quality, debilitated by years and intemperance, yet retaining the inclinations and affecting the vigour of youth, are by him exhibited with a spirit and fidelity which we have seldom seen equalled. I shall not dread correction when I assert that the stage in all its various departments cannot at present produce better performance."

We might have added a little way back that, when Barry surrendered Crow-street to his rival Mossop in 1767, the theatre was taken on lease by Mossop from Barry, who allocated the income he derived both from it and his professional emoluments to pay his creditors. A small proportion was reserved for his support, so by these arrangements in a short time he was enabled to discharge liabilities to the extent of £8,000.

In the winter season of 1768, Mossop commenced operations with renewed vigour, and presented fresh novelties to his patrons. On the opening night a new Polly and Lucy were ushered in in the persons of Miss Hudson and Miss Reade, and both were fairly received. A few nights subsequent, Cornely made his *début* in Ralph in the "*Maid of the Mill*," and his first reception was so flattering that it paved the way to his future success with a Dublin audience. Soon after appeared Saunders from Drury-lane in Polonius, and Mrs. Wright in the Queen. On the following night Mrs. Saunders (previously Miss Reynolds) came forward in *Violante* in the "*Wonder*," and Combrush in the "*Honest Yorkshireman*." Mrs. Saunders was accounted an actress of real intrinsic merit. Despite of these engagements the theatre, we learn, promised to be unfashionable and thinly attended. Perceiving this, Mossop made a spurt and hastened other intended operations. In November, Foote's new comedy "*The Devil on Two Sticks*" was got up purposely for the appearance of the author. The first night was a command night and the then Viceroy, Lord Townsend, attended. The house was crowded on the occasion, and the receipts amounted to £166 odd. The production of the piece was a lucky hit on the part of Mossop, and the appearance of Foote proved of great service. The eccentric comedian Seldon played on this occasion of his visit to Dublin to less than a hundred pounds, and occasionally a hundred and fifty. In tracing the ups and downs of the Irish Stage, one is struck at the constant succession of surprises and failures that signalise its history, and the bitter disappointments that the managers of our Dublin theatres experienced, lightened up occasionally by flashes of temporary sunshine.

\* See ante.

# INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

A GENERAL meeting of this body (recently incorporated by Royal Charter) was held on Wednesday evening, 6th inst., at the New Buildings, Trinity College. There was a large attendance of members and visitors on the occasion.

The report of council was read by the hon. secretary, Mr. John Chaloner Smith. We extract a passage therefrom:—"The council have pleasure in announcing the incorporation of this institution by Royal Charter. They trust that the position of the institution is now secured, and that its utility for the purpose of placing the profession of Civil and Mechanical Engineering in Ireland upon a sound basis will be generally apparent, and that the fact of belonging to this institution will be considered an ample guarantee of professional efficiency. The council wish again to urge further contributions of papers from the general body of members."

The next business on the paper was a ballot for new members, which resulted in the addition of 7 names to the list.

The newly-elected president, Robert Manning, Esq., Engineer to the Board of Public Works, read his inaugural address, of which we print a summary.\*

## PRESIDENT'S ADDRESS.

The president expressed his sincere thanks for the honour conferred on him by being elected for a second time to fill the chair. It was with feelings of great embarrassment that he set himself to address them that evening. He referred to the eminent men who had preceded him. Who were these men? First—Sir John Fox Burgoyne. The son of a soldier, born a soldier, he distinguished himself on many a hard-fought field. He knew the arts of Peace as well as of War, and was as able as a civil engineer as he was gallant as a soldier. To him this institution owes its existence, and the Irish civil engineer must ever hold his name in grateful remembrance for his constant and anxious endeavours to promote the interests of the profession in this country, as well as for his wise counsels. He has left us, covered, with years and honours, his last days clouded by a great sorrow in which he had the heartfelt sympathy of a whole nation.

"In arts the pride, in arms the strength of Greece;  
War's iron girdle girt the works of Peace."

We have had another soldier president, of whom we may well be proud—Sir Harry David Jones. In the several positions in which he was placed he proved that he possessed in a high degree those qualities which render the civil engineer eminent. He ever evinced the greatest anxiety for the welfare of this institution.

We can also mention amongst our past presidents the names of Mr. Charles Blacker Vignoles and Mr. John Radcliffe.

Another president who has left us very substantial proof of his good will was Mr. Michael Bernard Mullins. The son of an eminent contractor, he was from his youth engaged in the practice of his profession in Ireland. He has contributed to our "Transactions" several capital papers.

Of the other eight members of the institution who have passed the chair I must not speak;—they are all living,—most of them still engaged in the active pursuit of their profession. Long may they continue in it to do honour to themselves and to reflect it on the institution over which they have presided.

The president next gave a cursory review of the rise and progress of civil engineering in this country, the relation which this institution has borne to it, and the future progress of both. Since the year 1835, when this institution was founded, 2,157 miles of railway have been constructed, at a cost of over thirty millions of money. Dublin, Limerick, and Cork have been provided with graving docks, and Waterford will soon cease

to be an exception. Some of our principal towns have received excellent supplies of pure water at high pressure. He sincerely hoped that we may all live to see the day when every town in Ireland will be similarly supplied, and have extended to them the advantage of sanitary works, which have become a necessity, and which we have at last seriously set ourselves to obtain.

Although much has been done since this institution was founded, he quite recognised the difference between the meaning of the words *post* and *propter*, and had no doubt that so long as work has to be done, ingenious men will be found to do it, whether belonging to an incorporated society or not; but it may justly be claimed for our members that they have taken no insignificant part in the improvement of Ireland. One gave us our first railway, and indeed, with few exceptions, all our railways have been projected and constructed by Irish engineers, members of our body.

From another member the citizens of Dublin have obtained one of the best water supplies in the kingdom, which was happily adopted, after strict investigation, in preference to rival schemes brought forward by some of the most eminent water engineers in the world.

At no very remote period ships of even very moderate draught bound for this port were obliged to lighten in the bay. Now one of our past-presidents is engaged in the execution of works which have already been successful in enabling our steam-ships to arrive at and leave our quays at all times of tide.

If the view presented of the advancement of the profession in this country for the past 40 years furnishes matter for congratulation, it also suggests the necessity of caution. Placed as we are at the extreme west of Europe (with the great centre of capital and engineering ability lying between us and the continent), engineers settled in Ireland are rarely, if ever, called on to advise as to works to be executed on the continent, or even in other parts of the United Kingdom. It is true we have sent from this institution or from our universities no mean contingent of recruits to that great army of civilisation which is now invading the globe; but they return to us no more, except when they come to enjoy a well-earned leisure after their work is done.

There is nothing more common than for a young engineer of the present day to make unjust comparisons between the works of our predecessors and our own, forgetting the great aid we receive from the vast improvement in manufactures, especially in that of iron, which has placed at our command facilities for the execution of works unknown even when some of us commenced our career. This may be illustrated by an example. Many persons (himself amongst the number when he was young) agreed that the ancients had little, if any, knowledge of hydraulics. That opinion was founded on the existence of those magnificent structures, the aqueducts of Italy and Spain, which it is almost certain would never have been constructed if the property of water of finding its own level (as it is termed) had been known. We forgot in our arrogance that the man who had the skill to raise the wonderful aqueduct at Segovia, with its 170 arches (some of them more than 100 ft. in height) without cement or mortar, had no materials to construct a pipe, as a substitute, capable of resisting the pressure to which it would have been subject. This matter has lately been set at rest. In November, 1876, Father Secchi, director of the Observatory of the Capitol at Rome, communicated a paper to the Academy of Sciences, in which he describes an aqueduct constructed 200 years before the Christian era. The conduit, which is nearly 7½ miles long, is an inverted syphon composed of terra-cotta pipes 12 in. in diameter, and enclosed in masonry and beton. Its lowest part is 330 ft. below the point of discharge, and must have been subject to a pressure of at least eleven atmospheres.

There are three subjects of much interest to us as well as to the profession generally, to which allusion should be made, viz.:—1. The use of Portland cement as a building material, notably in sea works. 2. The construction of tramways. 3. Sewerage in connexion with the sanitary improvement of towns.

It is difficult to account for the culpable neglect of our profession in not sooner recognising the merits, and availing themselves of the use of, so admirable a material as Portland cement. It is hoped that some member will shortly favour us with a paper on the subject of concrete. In the meantime the very best clinical instruction in its use may be had by visiting the great works now in course of construction at the North Wall under our friend Mr. B. B. Stoney.

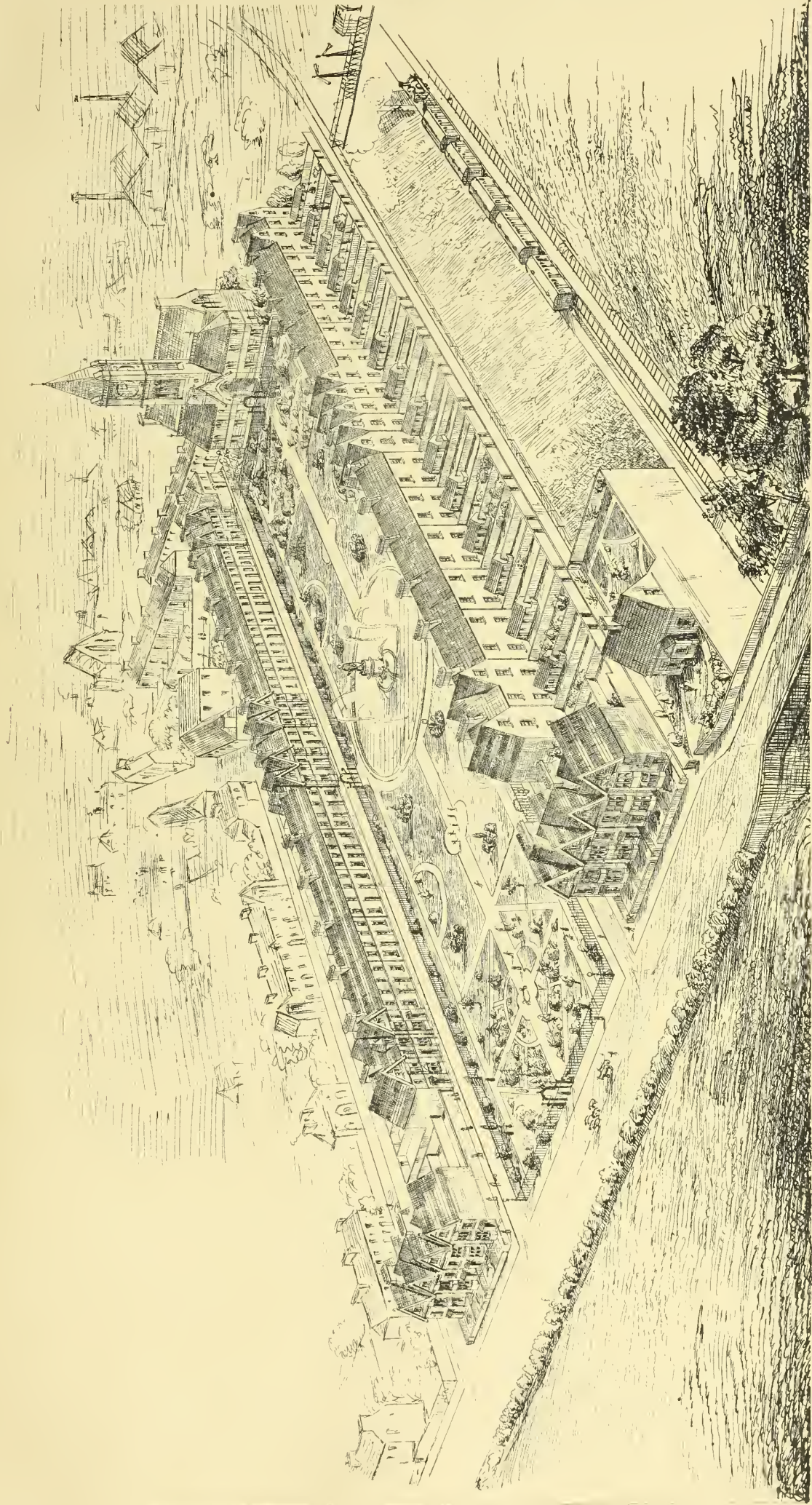
On the subject of tramways attention may be called to one constructed in San Francisco. One of the most flourishing quarters of that city is built on a series of ridges which the streets cross at right angles, and which are called from their shape "Montagnes Russes." As the city extended in more accessible directions, the owners of property in the steep streets became alarmed by its depreciation. In the year 1873 a tramway was laid down in Clay-street, which is about two-thirds of a mile long, and the inclinations of which vary from 1 in 6 to 1 in 9. The cars are drawn by a stationary engine of 30 h.p. attached to an endless rope which travels in a conduit 2 ft. in diameter (running below the surface) parallel to the rails and between them. This cable is attached to the cars through a slit nine-tenths of an inch in width. The rope is nearly 6,700 ft. long, is an inch in diameter, and weighs a little over four tons. The line cost £20,000 (£12,000 for the way, and £8,000 for the machinery). It carries about 1½ millions of passengers per annum. The cost of the working staff, including coal, is a little over 1½d. for each passenger. It is said to have fulfilled satisfactorily the objects of its construction.

There is no problem of more serious import than that which at the present moment engages the attention of not only the inhabitants of this kingdom, but of all civilised Europe, namely, how to dispose of the *disjecta* from the great centres of population. Other subjects touch only our wealth or our convenience—this *our very lives*. At Paris and at Berlin a solution has been found by the execution of extensive and costly works, by means of which the sewage is pumped into covered conduits, and distributed over the surface of suitable lands remote from the town, with the most satisfactory results. The case of London need not be mentioned. You have all, no doubt, made yourselves familiar with it, and are watching with interest the discussion which is now taking place with regard to the effects of the main drainage on the Thames.

It must not be imagined that if such a system—or even the most perfect system—of main drainage were now in operation in Dublin, that all would be accomplished which would, humanly speaking, free us from the attacks of those deadly, but preventible, diseases which have made havoc amongst the inhabitants of this city, whether rich or poor. Most of the houses in our best streets were built before the introduction of what have been named "modern appliances," upon the comfort and decency of which we plume ourselves. These have been connected with a system of house drains unsuited to the new functions which they are called upon to discharge. It would not be a matter of difficulty to select a number of houses in this city a residence in which for even one year would incur a risk equal to taking part in one of those great battles which have recently devastated the east of Europe. All this is going on while the means are within our reach of preventing those dangers, and whilst warnings are given to our citizens of the result of neglect through ignorance or carelessness.

The profession of the civil engineer in its relation to science was touched on by the

\* Specially prepared for the IRISH BUILDER.



ARTISANS' DWELLINGS, &c.,—MIDLAND GREAT WESTERN RAILWAY.

COMPLETION PLAN BY J. L. ROBINSON, ARCHT



president. Formerly it was rare to find the qualities of the mathematician and the engineer combined in the one person. It was considered a greater disgrace not to know the workman's name for a tool than to be ignorant of the very elements of mathematical or mechanical science. As a matter of fact, one of the questions proposed at the examination for the office of county surveyor was, "What is a hawk?" Doubtless the gentleman who answered it made high scores!

The young engineer now commences his career well educated in the principles of mathematical and physical science, and expert in the use of modern analytical methods. He should not be so absorbed in these pursuits as not to learn how a dozen men are to be set profitably to work with the pick, the shovel, and the barrow, or to be unable to direct the erection of a shear legs without killing his men.

Reference was made to the position occupied by the institution, now that it is a corporation under Royal charter. As to the obligation which that charter imposes with regard to the public at large, it is to be hoped that our diploma will never be conferred on anyone who is unworthy of it, but that whosoever it be carried it may be recognised and acknowledged as the "*bene decessit*" of the well-educated and properly-qualified engineer.

There are not many roads in our profession which lead to great wealth or high rank, and those are only trodden by a few of the most eminent; still there are many paths through it which lead to competence and happiness, one of the pleasantest of which is that which conducts to the mutual advantage of our fellow-men and ourselves, where there need be no losses but all gains—the precious gains of progress and civilisation.

Mr. B. B. Stoney, ex-president, having taken the second chair, it was moved by Mr. John Ball Greene, and seconded by Mr. James Price, and resolved—"That the best thanks of the meeting be given to the president for his very able and instructive address, and that it be printed and published in the "Transactions" of the institution.

## GREEK AND ROMAN ART—

THEIR CONNEXION WITH THE TEACHING OF THE CLASSICS.\*

### LECTURE V.

(Continued from page 38.)

WE have thus far gained a summary knowledge of three main points in connection with our study. We have seen, first, what the extent of the study was, how completely the whole mind of the ancient Greeks was illustrated in their works of art. Next, we made a single classification of the materials of the study, and saw what are the principal contents of the principal museums, and what the distribution of those various fragments of ancient art which have come down to us, and which furnish us with the materials for our study. Last week we saw what had been the gradual history of the modes of interpreting these materials—how from very imperfect and unscientific interpretations at the beginning we have progressed, by comparing our various antiquities more and more closely with the texts and with each other, and how the great discoveries of our own century have thrown continually accumulating light on the study, until at last the study has arrived at a high degree of exactness and complexity. Its modern methods I tried to illustrate by a case in point, which comes particularly home to us, namely, the case of the great group representing the contest of Athene and Poseidon in the west pediment of the Parthenon. I say it comes particularly home to us, because the fragments of the original group are in our own possession in the British Museum; and in a sketch of the several essays at the interpretation and reconstruction of that group which have been made, I tried to show you what the present position of the study is.

Hasty and imperfect as our survey has necessarily been, still I hope it has made you feel that, if we are to keep up a classical education at all, then it no longer becomes us to neglect, as we have hitherto

neglected, this great part of what a classical education is. If I have succeeded in proving that the study is worthy our pursuit; that it is time to turn round and ask ourselves whether we do not neglect it more than it should be neglected; whether other nations are not infinitely in advance of us in the way in which they prosecute this study; then, I think, it only remains for us to speak to-day of the kind of recognition one would desire of this study in England, and how to set about it.

First of all, necessarily, the central institution for such a study must be a national institution, such as the British Museum. For the most advanced stages of the study, the British Museum must be the great laboratory in this country. The object of an institution like that is to be a receptacle—a laboratory—of all that we can procure for the nation, of all that our wealth, and our power, and our science is able to collect, of ancient monuments of ancient art. And the British Museum has fulfilled its part well. But great and precious as the British Museum is, although it is the head-quarters of this study, not only for ourselves, but in great measure for all Europe, still the mere fact of having established there this great laboratory is not enough for us to have done. I suppose if we were to count over the people who go on a holiday to the British Museum, we should not find any great proportion who know how to enjoy what they find there, to whom this great collection of art really means much. We see them strolling ignorantly by, gaping rather than admiring. They come un instructed and unprepared; they cannot—the majority of them cannot—feel much real delight in what they find there.

Then, the question is, how shall we modify our national education is such a way that that great collection shall be a means of conveying instruction to a larger number of people than it does now? I do not think it can be done by asking that officers of the British Museum shall be there to interpret and explain their own treasures. Those officers have their time, and more than their time, taken up with the complicated duties of custody, cataloguing, and arrangement; and, supposing we were to appoint a new class of officers to lecture and explain, still I do not think that would be the way to do it. People must come in some degree instructed and prepared beforehand. The British Museum, or any great collection of original antiquities, is the central institution for the final and most advanced part of the study; but before people can appreciate that, they must have learned the rudiments of the subject. They must have had study and knowledge of these things made a part of their education. There are many reasons why one desires that the British Museum should be a greater educational machine than it is. One wishes that the public should know better what is meant by things they read in the newspapers when there are questions of great purchases on hand, and one wishes that members of Parliament, and the friends of members of Parliament, should be able to speak on such questions with greater knowledge and authority. But I do not think that these desirable results will be got by mere teaching and preaching within the walls of such an institution like that itself. I think they are to be got rather by preparing people's minds beforehand—by educating people, so that they may know what to look for when they go there.

Now, no single national museum of originals, however great, can be a complete educational museum, properly so called. Each possesses its own masterpieces; but, for educational purposes, it is necessary to have all the masterpieces together. Such a museum of things fetched from right and left, where they are scattered over all quarters, is one, not of original art, but of reproductions; in the case of sculpture the only available form of reproduction being plaster casts. Now, it is no good denying that between a plaster cast and an original statue there is a very great difference. The marble of the original has of itself an infinite charm. It has a delicacy and partial translucency of surface, a quality of material beauty and preciousness, which constitutes no mean part, but one of the subtlest parts, of our pleasure in the thing itself. You cannot fully realise all that the sculptor meant by the delicate workmanship of the surface, all the delicate suggestions of the particular character of flesh and tissues—you cannot have all those finer pleasures in the observation of sculpture—except in the originals. A plaster cast, first of all, is in opaque material; it admits no light, it has a dead, unpleasant dull surface. It is possible, indeed, to do something with this too dull, white surface, and to improve it by a certain treatment. But, with all that, doing the best you can, you cannot get any plaster cast to be other than very different from the original. All these things must be remembered when we talk of these museums of second-hand art. Do not let us deceive ourselves, and say that these

things are as good as the originals. They are not at all; only they are the only things we can have, if we wish to bring together what is absolutely necessary for the comparative study of the subject. If we wish to bring together the scattered parts of great works of art from various museums, from various corners of Europe, then the form of casts is the only form in which we can do it. And to do that gives us a collection not only instructive but indispensable. Taking the particular subject of which I was speaking the other day—of the body and chest of that great god Poseidon from the Parthenon pediment, one-half is at Athens, and one-half at the British Museum. To bring these two together, we have simply to depend upon casts. Similarly with some of the very best of other Parthenon groups, some pieces of which are at Athens, and others are here. And in general, to construct the great historical groups of ancient sculpture, we must put side by side, in this, the best form we can, things that are scattered far and wide. For instance, if we wish to illustrate what is the most interesting, perhaps, of all periods in the history of Greek art—its archaic period, or era of struggling and development—we require the examples so widely scattered as a funeral monument preserved at the little village of Orchomenus, in Boeotia; the metopes of Selinus, preserved in the museum of Palermo; the pediment figures from the island of Aegina, now at Munich; certain reliefs from Assos, in the Louvre; the so-called Harpy monument from Lycia, in the British Museum; the figures of Harmodius and Aristogeiton, at Naples; these, and many more, to illustrate that single phase of art, have to be assembled for comparison in the only form, that of casts, in which such assemblage is possible.

Again, in these latter days great discoveries have been made of the central Attic school of Greece itself. The enterprise of the Germans has recovered from the soil at Olympia, and nearly complete, the great pedimental groups executed by the scholars of Phidias. How can we really judge, balance, and compare the qualities of these things unless side by side with the Parthenon fragments, which we know to have been executed under the immediate eye of Phidias himself, are placed these others, the works of the scholars of Phidias, executed by provincial hands, at Olympia? There are even instances of connexions more important and indispensable than that. We know that there were schools of sculptors in the late time of Greek art, who lived and wrought for kings and dynasts in the outlying provinces of Greece. We know, for instance, the rich and famous kings of Pergamos had their skilled sculptors, and we know of a particular group which was set up to commemorate a particular victory of those kings in the second century B.C. The Gauls, after their defeats in Italy by the Romans, had some of them been pushed out of Italy, others had come from migrations—of which we do not know the history—from beyond the Alps, and a great wave of these displaced Gauls came down upon Greece at the beginning of this second century B.C. One branch broke itself off to the north of Greece, and went across the Bosphorus to Asia Minor, and there they remained, sometimes acting as mercenaries for this or that king, sometimes marauding on their own account, and so they overran the country for more than fifty years. One of the kings of Pergamos, Attalos, overthrew these Gauls in a great and famous victory, and set up a monument to commemorate that victory. This monument was composed in the manner of Greek art, not only being a representation of the actual victory in question, but also of other subjects which bore on this victory, or were connected with it in symbolism and in meaning. The group consisted, then, of a set of sculptures representing the real overthrow of the Gauls, or Galatians; the mythical overthrow of the giants by the Olympian gods; the mythical overthrow of the Amazons by the Athenians under Theseus; and again, another overthrow, a historical one, the overthrow of the Persians by Athens. These three other legendary and historical victories of Hellenes over barbarians were regarded as the symbolical precursors of that of Attalos over the Gauls. This group was set up at a particular place on the south-east side of the Acropolis against the outer wall; the figures were two cubits or three feet long, and on a recorded night of storm one of the figures was blown down from its place on the wall, and rolled or fell down in the theatre of Bacchus. Now, it so happens that there exists in various museums in Europe several figures of personages prostrate in battle, about three feet in length. Some of them are at Venice, some are at Naples; one is in private possession, and one in Paris. Now, by getting casts of all these, and putting them together, we see that here are a set of sculptures of fourteen figures, all corresponding in size and in artistic character. When we come to examine them, we find that several of them

\* Cantor Lecture. By Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge.

represent Gauls; for we know well, from ancient authorities, what the look of the Gauls was, what was their costume in war, what was the peculiarity of their head-dress and of their facial type. Another figure, which belongs to the same set, is not a Gaul; but, by his head-dress, by the cap which he wears, and the form of his trousers, we know that he is a Persian. Another is a slain Amazon. Another is, probably, though it is mutilated, a giant. So that, putting these together, and comparing them with our texts, we can say, with certainty, here are portions belonging to that famous group set up in the second century B.C. by Attalos, King of Pergamos. That is an instance of the kind of way in which these collections of casts, gathered from all parts, are indispensably necessary for this study, and of the importance of being able to place them side by side, and carefully test the correspondence of scattered items, and see their affinity, and so recognise how they belong to each other. There is one statue which for three centuries has been the most famous in the world, the Apollo Belvedere; and another, the colossal Diana with the stag, which is well known at the Louvre. By putting these two side by side, as we can only do in the form of casts, we can see that there is an immediate affinity between them. They are not only brother and sister in legendary godhead, but in a closer sense than that; the type of face is identical; there is a correspondence and a balance of gesture, and an exact facial resemblance, all indicating that these statues, found in different places, existing now in very different localities, belong to each other, and were in all probability either the work of the same hands, or else different remaining reconstructions of the same original group. And, casting about, we have discovered what the group was to which these two were likely to have belonged. It is unnecessary to repeat instances of this sort; I have only wished to show you, by two or three examples, how indispensably necessary a foundation to the comparative study of these things is provided by a museum of well-selected casts.

Such a museum of necessity requires great space. Many of the things are very large. I do not mean the single figures, although there are some, such as the Castor and Pollux of Monte Cavallo, which are by themselves enormous. But for pediment groups and friezes like those of the Parthenon, *Ægina*, and *Phrygalia*, it is evident that a vast amount of room is required. By far the greatest and most complete gallery of the kind is at Berlin, and almost every German University is provided with one more or less complete. There was a very spirited and courageous attempt made nearly twenty years ago in England, when the Crystal Palace was first founded, to provide such a museum. The Crystal Palace was intended, as many of you remember, to be a place of culture and education above all things; and immense expense was incurred and great pains taken in having moulds made of a great many things all over Europe which had not yet been moulded, and in collecting these at the Crystal Palace. Like most of the appliances at the Crystal Palace which had the same object, which were intended as instruments of culture and elevation, this museum of casts was neglected; the public did not care for it; it has, by degrees, partly from injuries in the great fire, partly from being moved out of the way to make room for more attractive things, become very much disregarded. Looking back at the spirit in which that museum in the Crystal Palace was founded, and the reception it has had, one cannot say it has been a success. Then one has to inquire the reason of this failure. Some energetic students, devoted to this subject, are engaged at this moment in endeavouring to promote in London the establishment of a complete museum of this kind on scientific principles. With all my heart I wish them success. I think there can be no better or more desirable enterprise; but, at the threshold of such an enterprise, it is desirable to look back and see if we can understand what have been the reasons of the failure of the only similar enterprise that has yet been tried in or about London. First of all, the set of casts at the Crystal Palace were not thoroughly well selected from a historical point of view. They were selected, to a great extent, from a decorative point of view. It was desired to make as beautiful and telling a show as possible. But apart from these minor reasons for non-success, the great reason, I think, is this, that it was supposed that people would care for these things by themselves, that their mere beauty would attract people, and that they would come to study them. But that was a mistake with regard to the British public. A gallery of casts, however well selected and well arranged, in however beautiful a place, is necessarily rather a bewildering thing. You realise that these are only plaster things; you notice that unpleasantness of surface, and feel as if the things were cheap, and do not feel their value unless there

is some one there to tell you—unless the thing is explained, and you know something about it. I think myself that the prime reason of the Crystal Palace collection not having been a success was, that it was too much expected to take on its own account; whereas—at any rate in the present state of public education—such a collection can never be appreciated unless there is some one there to teach, unless the people whom it is endeavouring to attract are students desirous of being taught, and of learning the historical meaning of these things; that is to say, of taking lessons in archæology. I hold, therefore, that the success of the plan which is now mooted, and which I hope will succeed, depends almost entirely on its being associated in some way with agencies of education—on its being made an educational institution, properly so called. It will never succeed as a mere institution of entertainment. It will never succeed by attracting people who care for the beauty of these things, but who know nothing about them, to go and work at them by themselves.

(To be continued.)

### THE PHONOGRAPH.

THERE seems to be no doubt that Mr. Edison of New York has succeeded in realising an instrument by which articulate speech can be recorded on a strip of tinfoil with all its modulations and inflections, and reproduced as articulate speech after any interval of time, without any loss or variation of its original character. The apparatus by which these results are effected is of no great complication. A thin circular metallic membrane or diaphragm has a blunt steel point attached to its centre. The membrane is placed in a vertical position, and when set in vibration by the human voice, or by any other means, causes the steel point to move to and fro in a horizontal line. A cylinder with a screw-groove cut on its surface, is placed immediately in front of this point, and by means of a screwed spindle can be made to move along the membrane in such a way that the steel point always finds itself over the groove. If the cylinder be covered with a sheet of thin tinfoil and rotated with constant velocity by a clockwork arrangement, the tinfoil will receive a succession of indentations in consequence of the vibratory motion of the membrane, the character of the marks so made depending on the nature of the exciting sounds. Thus can be obtained a metallic record of any sentence, or number of sentences, involving every peculiarity of the voice which gave utterance to them. The record has now to be translated by being reconverted into sound; this is done by means of the third portion of Mr. Edison's apparatus, which consists of a conical tube, open at the larger end and closed at the smaller by a tightly-stretched paper membrane. Just in front of this is a light flat steel spring, held in a vertical position, and terminating in a blunt steel point projecting from it. The spring is connected with the paper diaphragm by means of a silken thread, which is placed just sufficiently in tension to cause the outer face of the diaphragm to assume a slightly convex form. This apparatus is placed on the opposite side of the cylinder to the metallic membrane and point above mentioned. The steel point of the translating apparatus is advanced towards the cylinder until it rests without absolute pressure in the first indentation. If now the clockwork be set in action again, the cylinder will move forward at the same rate as before; the steel point will follow the line of impression and will vibrate in periods corresponding to the impressions previously produced on the foil by the point of the recording apparatus. Vibrations of the requisite number and character being thus communicated to the paper diaphragm, precisely the same sounds will be evolved that in the first instance were required to produce the impressions formed on the tinfoil. The voice of the original speaker is thus heard issuing from the end of the conical tube, tinged, however, with a slight metallic or mechanical tone. In using the machine for the purpose of correspondence, the metal strips are removed from the cylinder and sent to the person with whom the speaker

desires to correspond, who must possess a similar machine to that used by the sender. The person receiving the strips then places them in turn on the cylinder of his apparatus, applies the translator and puts the cylinder in motion, when he hears his friend's voice speaking to him from the indented metal. The sender can make an indefinite number of copies of his communication by taking a plaster of Paris cast of the original strip, and rubbing off impressions from it on a clean sheet of foil.—*Academy*.

### RAILWAY AND TRAMWAY PROJECTS.

At a special meeting of the Corporation last week the proposed bill of the Dublin, Wicklow, and Wexford Railway Company, for the construction of tramways in Cardiff's-lane and Great Clarence-street, was considered. The report submitted by No. 1 Committee stated that "under the bill powers are sought to lay a single line of tramway at west side of Great Clarence-street, crossing Great Brunswick-street, and continuing through Cardiff's-lane to Sir John Rogerson's-quay; also powers to widen the iron girder bridge at the crossing of Charlemont-place and the Grand Canal, and that over Great Clarence-street, to about double their present breadth; also powers to take lands at South Cumberland-street and other places. It has been pointed out that the company should erect and maintain two public lamps under the bridges, and keep the arches free from drip; and it is suggested that a very great improvement would be effected if, when widening the bridge over Great Clarence-street, they could be got to take down the present most objectionable stone bridge of three arches, and substitute iron girders, thus getting rid of the side arches over the footpaths, which are a grievous nuisance. This would also admit of the raising of the roadway, which is at present liable to be flooded. If carried out as proposed by the company, the widening of the bridge would aggravate the existing nuisance. To lay the tram-line, the levels of the western footpath and carriage-way of Great Clarence-street and Cardiff's-lane would require to be raised, and the company should be required to pay the cost of the alteration and pave the space between the tramway and the kerbing, and at the east side to pave to a width of 2½ ft. outside the tramway. It will be necessary to petition against the bill, unless terms are given and clauses introduced; and as yet the company have not agreed as to terms. The letters of the secretary and of the solicitor of the company, asking the assent of the Corporation to the proposed tram-lines, and undertaking that the clauses shall be withdrawn in the event of a satisfactory arrangement as to the construction and user of the lines not being made with the Corporation, and that such assent shall not in any way operate against the right of the Corporation to oppose the bill, having been considered, together with the report of the law agent, also annexed, your Committee beg to recommend that assent be given to the construction of the tramways on the terms mentioned in the letters."

After some discussion and amendments involving the omission of the words "as to the construction and user of the lines," and "it has been pointed" down to the beginning of the words "It will be necessary to petition," the report with the above omission was adopted. It was thought it would be more judicious to leave the matter referred in these paragraphs open for the present.

Mr. Brooks, M.P., in the course of some remarks said that last year there was a proposal to extend the Kingstown line to the corner of Nassau-street. It had been since ascertained that the promoters were prepared to give £50,000 for the land, to enable them to come to Grafton-street, and that sum was totally irrespective of the cost of construction and maintenance of the line. Now it was thought, as it seemed to him, to extend the Dublin and Kingstown railway to a position

in the city, of importance at least equal to that in Grafton-street—to the quays. It would enable the company to carry not merely passengers but heavy goods, not only to the quays, but would establish a communication with the south and, indeed, the west of Ireland, and that too at a profit, and to levy from the citizens tolls, so as to give the company profits. He did not wish to refer to the liberality or illiberality with which the railway company had treated the citizens hitherto, nor did he wish to refer particularly to the manner in which the monopoly they enjoyed had been exercised, but he would ask that before the Corporation yielded to the company the right to carry passengers and goods they would have a schedule carefully prepared, similar to those that had been prepared by companies in England, especially that of a railway in the neighbourhood of Birkenhead, which promised to afford great facilities for the conveyance of goods and passengers. They should have a full opportunity of ascertaining from the broadest sources of information all that was necessary to enable them to come to a proper conclusion of the value of the concession they were making to the company. He could not too earnestly implore of the council not to act with undue haste in this very serious matter, and about which there was really no hurry. He thought they should at least have one year to consider it."

It would be startlingly instructive, indeed, if the public were informed of the exact *modus operandi* by which so many bills are promoted, professing to benefit the community in this city, and shortly afterwards withdrawn, or let fall through. We are advocates for all real public improvements, but we have not remained silent, nor will we in future, if we discover that large sums of public money are likely to be wasted in bill promotion or bill opposition in this city. We are now speaking in a general way and apart at present from the subject under notice.

[The above was in type for our last issue.]

## STATUES AND MONUMENTS.

JOHN STUART MILL.

ON Saturday, 26th ult., the statue of the late John Stuart Mill was unveiled. Shortly after the death of Mr. Mill in 1873, the work was entrusted to our then living and distinguished native sculptor, John Henry Foley, R.A., who however died before the model was completed (some say before it was begun). After Mr. Foley's death the work was put into the hands of Mr. Woolner, R.A., who executed the model for the bronze statue, which is said to be entirely his work. The statue occupies a good site on the Thames Embankment. The figure, of heroic size, is represented as sitting upon a garden seat, the right hand holding a book and the left hand resting on the knee. The inclined position of the body, and nervous expression of the features, give the statue the appearance of being about to spring to its feet to more fully demonstrate the argument in which it is apparently engaged. At the feet of the figure is a newspaper, apparently carelessly dropped. The face is looking towards the Houses of Parliament. The pedestal, of Portland stone, is encircled with oak leaves, under the simple inscription, "John Stuart Mill," being a laurel bough. The memorial committee, after paying the expenses, have a surplus of £500, which it is intended to be devoted to some educational work in connection with the memory of Mr. Mill.

THE PRINCE CONSORT STATUE.

On the 22nd ult. the Prince of Wales unveiled the marble statue to his father, the late Prince Consort, erected in the entrance hall of the Fitzwilliam Museum, Cambridge. The late Mr. Foley, R.A., was commissioned to execute this work, for which £3,000 had been raised, a large portion of it being subscribed by members of the University. The work, owing to a variety of causes, was a long

time in hand, caused in part by the pressure of business on the artist, and latterly through failure of health. However, shortly before Mr. Foley's death, the marble statue was completed. The Prince is represented in his robes as Chancellor of the University, and the work is accounted highly satisfactory in design and execution.

### BURNS MONUMENT.

It has been resolved to take steps for the erection of a monument commemorative of Robert Burns's intimate connexion with the good town of Dumfries. The committee charged with the prosecution of the undertaking have made a choice of a design by Mrs. D. O. Hill, Edinburgh, worked out, so far, only in the form of a small model. The framework, so to speak, of the composition consists of a composite pedestal, intended to stand 13 ft. high, the central part of which would be square in form. In each side is a panel, which may, if thought desirable, receive a bas-relief; and at each of the four corners there is carried up to the height of 4 ft. from the ground a projecting shaft, of square section, designed to support a symbolic figure. The statue of Burns, which will occupy the summit of the pedestal, is proposed to be cast in bronze, of the height of 8 ft. Of the subsidiary figures, which are intended to be of life size, and will be executed in bronze or stone, one is designed to represent the genius of Poesy. Another will be representative of Religion. Patriotism is symbolised by a figure in belted plaid and shirt of mail, grasping a sword in the right hand and resting the left on an ample shield; while in the joyous peasant with her reaping-hook is suggested the type of healthy rustic beauty which inspired so many of Burns's exquisite lyrics. In the event of bas-reliefs being added, these will embrace designs illustrative of the "Cottar's Saturday Night," "Tam o' Shanter," and possibly the "Jolly Beggars." For the execution of the monument the sum of £3,000 is required.

## CORRESPONDENCE.

### THE RECENT CONFERENCE, AND WHAT SHOULD BE ITS RESULTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Although unable to attend the late conference, I read the report of the proceedings in your last issue with great interest. It appears to me that the chief work before the committee nominated at the meeting, is so to frame the amended rules as to gather into the Institute all qualified architects, and to exclude from practice all others. As was the case with the medical profession under somewhat similar circumstances, no one by the new rules should be recognised as an architect, or be eligible for admission to the Institute, but those now in *bonâ fide* practice, and who can point to accomplished work; while for the future such proofs of sufficient technical training should be required, that a diploma from the Institute will be a guarantee to the public that the holder is no mere draughtsman, clerk of works, or surveyor, but is competent to design correctly, as regards taste, construction, and the proposed outlay; to prepare the specification so as to avoid litigation and extras; and to superintend the work so as to ensure its proper execution, and the use of sound materials. A failure in any one of these points should, in my opinion, be a disqualification.

To try anything like this without the cordial support of the *whole* profession, would cause the attempt to be as great a failure as were the voluntary examinations in England; for if it be found that any considerable number of architects hold aloof from the general body, men will not come forward for admission, as in that case failure would do them the greatest injury, but admission would not be absolutely necessary for successful practice. I believe, therefore, when the rules have been drawn up and considered at the adjourned meeting, the next most

essential thing to do before finally adopting them will be to make sure that all the heads of the profession will endorse them, and give the Institute their full support. I notice the absence of a good many influential names in your report of the meeting.

With the full support of all the qualified architects in Ireland, but not otherwise, the Institute will be in a position to afford protection to the profession, and, in the absence of legal power to restrain incompetent men from practising, should publish annually, in a few of the leading Dublin and provincial papers, the list of members, present and resigned (if any), stating at the same time that no one else resident in Ireland is recognised as capable of practising as an architect.

I hope I need not add that no architect should be permitted to engage in any branch outside his own profession; either in the way of taking contracts, acting as quantity surveyor, or in any similar capacity. An architect, who is really such, has quite enough to do without poaching on others, and he in his turn should also be strictly secured.

I would hope that, as soon as determined, the date for the adjourned meeting will be advertised in your journal and in the chief provincial papers, so that the attendance of architects may be as large as possible.

J. H. FULLERTON, Architect.

Armagh, 8th February, 1878.

### THE MAGDALENE TOWER, DROGHEDA.

R. A. SMYTHE, Esq., in transferring the custody of the Magdalene Tower to the Corporation (as it would appear he recently did through counsel), has cast upon that body an obligation which we (*Conservative*) hope no trifling obstacle, no imaginary fears, will prevent them from discharging. These duties are, we venture to say, sufficiently important to attract a wide-spread attention. The tower itself is of more than mere private interest. In a sense it is a national monument, and, as such, deserves all the veneration that people now-a-days usually regard those old land-marks of the past with. Its existence dates as far back as that of Tredagh itself, and no doubt it has played its part in all the important epochs of the history of this ancient town. Stone and mortar though it is, however like the animated earth which piled it up to its original lofty proportions, it must at length succumb to the inexorable hand of time. It is even now rapidly crumbling away. A couple of years ago we called attention to this fact, and pointed out that, as many families resided just beside the tower, its dilapidated state rendered it unsafe for them to remain there. As a consequence of this notice, precautionary measures were, we believe, taken. Those tenants who lived in dangerous proximity were ordered to leave, and temporary protecting walls were placed around with a view to preventing children—whose tastes were not quite the same as those of the Archaeological Society—from playing around the skeleton base of the tower. At that time the public feeling would have carried things much further, and stopped at nothing short of complete restoration, but that popular desires had to give way before private rights. Since this movement was set afloat two years have passed away, and Time has not been over gentle in his treatment of this aged relic, so that if Mr. Smythe carries the intimation made on his behalf into effect, it comes into the hands of the Corporation in a condition to command their immediate attention. In hoping this will not be withheld, we think it right to add that the public expect rude hands will not be laid upon the tower—that it will be *restored*, not as a building of yesterday's growth, which succumbed suddenly before a storm, but as one with the antiquities of centuries upon its summit—which deserves to be handed down to posterity in the vigour of old age, with *unaltered style and unchanged symmetry*.

## THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Royal Irish Academy was held on Monday evening, Sir ROBERT KANE, President, in the chair.

The Chairman said that in the ordinary course of business it would be now their duty to proceed to the reading of papers, of which there were several on the notice paper; but it would be recollected that at the last meeting of the Academy they adjourned the discussion of a very important subject, which was then before them, till that evening, and it would be for the Academy now to determine whether by a suspension of the standing orders they should proceed to the immediate discussion of the question they adjourned.

Dr. Ingram said he had been instructed by the council to move the suspension of the standing orders, in order that the discussion might proceed.

Dr. S. Ferguson seconded the motion, which was adopted.

Professor O'Reilly, who had moved the adjournment of the debate, said that if the words contained in the scheme were those of the testator, it would seem that the trust confided to the Academy was of the largest and broadest description. It seemed to him that the sum at their disposal was to be given in premiums at fixed periods, and to be given according to their judgment; and if in the new scheme the council would suggest or imply a stated period for the recurrence of these premiums, he thought that the whole difficulty between them and the other sections of the Academy would be completely solved. It would clear away hesitation and doubt and want of confidence that had been given expression to. He would suggest that that periodical premium should be in some way incorporated in the scheme. Moreover, it had been suggested to the council that there were some great difficulties arising in the award of these premiums. He would not for one moment pretend to suggest or in any way interfere with the absolute liberty of the council in the awarding of those premiums. The money value of those premiums was not the question. Coming to the 4th paragraph, as to the publishing of the "Transactions," he agreed with everything that had been said by Dr. Jellett. He thought that the great importance of a body such as this is the publication of papers, not merely the publication of works in an extended form, but the primary requisite of science at the present time—good, able, distinct drawings and illustrations. Much had been said upon the necessity of supporting art; names had been mentioned, and it had been implied that the Academy was neglecting its duty in that sense. He thought that the Academy had at all times been a very great protector of art, and that the names of Wilde and Petrie showed that the Academy could fairly take to itself the credit of having given a certain amount of support to art. He would not, so far as the general scheme went, give any direct opposition to it. He thought that as the council was elected annually, and elected by ballot, and that it had received again and again the marked approval of the Academy, he could not say that he distrusted them. He would, therefore, propose the following amendment:—"That the Academy accept the scheme proposed by the council for the better administration of the Cunningham Fund, subject to such alterations, if any, as on the discussion of the details shall seem fit; and that the Academy now proceed to consider the scheme, paragraph by paragraph, as set out in the draft of the proposed instructions which the council have placed before them."

Mr. La Touche seconded the amendment. It had been prepared by Master Pigott, who was unable to be present. He (Mr. La Touche) agreed with Dr. MacSwiney that the conduct of the council since 1841, in not taking pointed action with regard to the Cunningham Fund, had been disastrous both to the Academy and to the public. He concurred also with Dr. MacSwiney that the objects of the testator should be carried out.

But the ambiguity of the terms of the bequest afforded ample justification for the two gentlemen who had been bringing the matter before the Master of the Rolls.

Dr. S. Ferguson, supporting the amendment, said—If the council had only to set prize questions and distribute the money amongst the authors of the best, or the least bad, of the essays sent in, their task would have been easy and safe. But this would have been merely *largesse*, not a performance of their trust. The primary object of the trust was the improvement of knowledge. The giving of premiums was but a means to that end. Hence the difficulty of the present council, and of all their predecessors. During the first thirty years of the administration of the fund, ending in 1819, the surplus over the premiums was £731; yet the Academy was then under the management of the Charlemonts and Kirwans, who could not be supposed to have been actuated by any want of patriotism or by disregard of native talent. A committee had been appointed, and had recommended that the principal and interest should be consolidated. This afforded a temporary relief from the difficulty, but at the end of another period of twenty-four years, in 1843, under the government of the Lloyds and MacCullaghs, the fund had again outgrown the premiums by £328, and the late Mr. Justice Moore (then Mr. Moore, Q.C.), a leader in the Courts of Equity, was consulted. He advised that the Academy, after expending what it considered necessary and proper in premiums, might apply the surplus in advancing its other objects in the improvement of knowledge. But individuals could not be expected to assume the responsibility of acting without legal protection, on the advice of counsel however eminent. The fund accordingly passed into its next period, under the Hamiltons, Todds, and Graves's, ending in 1861. A very full report was then rendered by council, showing a surplus of £175, and the Academy was invited to apply its own judgment to the question. The Academy did not do so, and the fund drifted into its last cycle, ending with the institution of the present proceedings. Council was not to blame, neither did he blame the Academy. The defence of the Academy, if it had been reproached for its apathy in 1861, would have been—"This is not our business. It is the duty of council, instead of troubling us with the oft-told tale of unspendable accumulations, to come to us with some tangible and practical scheme, and to bring us the means of giving legal effect to it." This was precisely what council had done. Here was a scheme, and here was a decretal order of the Court of Chancery, under which the Academy, if it pleased, could give legal effect to it in its present or in any amended form. But certain learned members met this proposal with a general negation. In effect they said: "The state of the affair as regards this fund is eminently unsatisfactory. Therefore, things must remain as they are." They who used this singular argument professed to be displeased with council for having brought the Academy into the Court of Chancery without first consulting it. Supposing that to be so, the Academy ought not to act on a feeling of huff. That would be as if a hungry man were to refuse good food because his cook had not consulted him before going to market. But up to the present moment the Academy was not before the Court of Chancery or any other court, nor had a penny of its funds been transferred, attached, or in any way affected. [Here Dr. MacSwiney interposed to the effect that Mr. Richey had stated to the contrary. Dr. Ferguson repeated what he had said, and proceeded.] The only persons before the Court of Chancery were himself and Mr. Richey, who had been sent there as the forerunners of the Academy, to open the door at which the Academy might enter or not as it pleased; but as yet it was not in Chancery, although if it pleased it might be there to-morrow. Another cause of complaint was that council had not awarded premiums to the authors of various works, some of them works of considerable merit.

It would be indelicate then or there to canvass their claims; but as the author of one of them had appeared by his attendance to countenance the claim put forward in his behalf, this remark might be made: The work referred to was published more than twenty years ago. It should be presumed that the council of the day had done its duty, and considered that, to whatever extent the work had improved knowledge in an artistic point of view, it had in some other direction obscured and disimproved knowledge to an extent that was greater; and if that were its opinion, council had been quite right in refusing to apply this fund to its reward. However that might be, it was not just to censure the present council for what had been done or left undone under a different management a dozen or fifteen years ago; but if the merits of the work in question should come before the speaker, he declared his mind to be *tabula rasa*. The only other reason assigned to justify the policy of negation was, that the scheme was a bad one. This was the worst reason of all: for, if it were a bad scheme, it was there to be amended. But let it be compared with the trust. The trust was for the improvement of knowledge by rewards. This was the scope of every part of the scheme. Sections 1 and 2 dealt with the old forms of reward by medals and premiums for prize questions. As regarded the latter, it commended itself less strongly, to his judgment than any of the other sections. He had but little confidence in learning that grew out of a money motive. All the great works that had improved knowledge throughout the world had sprung from the love of learning for its own sake, from the love of fame, and from the desire of the higher order of minds for intellectual communion with the minds of others. Section 3 appealed to the love of fame, but council was not infallible; and it was section 4 which really offered the surest reward to learning by guaranteeing that any paper deemed worthy of admission to the publications of the Academy would be brought gratuitously under the eyes of more than a hundred learned societies throughout the world. It had been said that there was a violent departure from the intentions of the testator. The Academy would see that there was no departure at all, but that everything in the draft scheme had been designed, as Mr. Richey had expressed it, "premium-wise"; and he trusted that, after what they had heard, the course of barren negation would be abandoned, and that the Academy would now proceed unanimously to apply itself to the practical consideration of the scheme.

Dr. MacSwiney wished to speak to the amendment. It was necessary that he should state that the picture drawn by Dr. Ferguson of the position of those who adopted the line of conduct with which he (Dr. MacSwiney) was identified on the last occasion, was not a true picture, and that it was not correct for him to state that those who proposed to negative the proposal of the council did so either in ignorance of the dilemma in which they were placed, or with the intention of adhering to the *statu quo ante*. He (Dr. MacSwiney) distinctly suggested a course which he might again suggest, viz., that a committee should be appointed for the consideration of the question. He distinctly denied that the policy of those who opposed the proposal of the council was one of negation. It was implied in the speech of Dr. Ferguson that there had been found difficulties from the beginning in the administration of the fund, owing to the scarcity of suitable objects for the reception of their premiums. If that were true, it would be one of the most melancholy stories in the archaeology of Ireland, and on that he at once joined issue, and said it arose from a lack of care on the part of the council rather than from a want of merit on the part of recipients.

After some further discussion the amendment was put and declared adopted unanimously.

The several clauses of the scheme as proposed by the council (and which we printed in our last issue) were then put to the Academy by Dr. Ingram, and adopted unanimously. The first clause was the only one which led to the proposing of amendments, all of which were lost on division. The preamble was next read by Dr. Ingram as follows:—

SIR,—The order of his Honor the Master of the Rolls, dated the 19th November, 1877, and made in the matter of the Royal Irish Academy and the matter of the 52nd Geo. III., chap. 101, has been laid before, and carefully considered by, the council of the Royal Irish Academy.

His Honour by such order has directed that the petitioners should bring in and lodge in his chambers a draft of a scheme, and that such scheme should be settled by counsel, and that a copy of such scheme should be lodged with the clerk of the attorney-general.

The petitioners in the matter presented the petition at the request and by the directions of the council, and are, both they and the council, desirous that such a scheme should be presented to the court as may meet the views of the counsel employed in this case, and also the wishes of the general body of the members of the Academy.

The council has, therefore, taken the opinion of the members of the Academy as to the nature of the proposed scheme, and have received their consent and approval to the following instructions. It is for the counsel employed to reduce these instructions to a formal and technical shape; and these instructions are, therefore, intended merely as an expression of the wishes of the Council and the Academy as to the substance and matter of the scheme.

Mr. Garstin wished to correct a misapprehension that seemed to prevail as to the amount of Government aid which was available for the publication of their "Transactions." The fact was that the total sum granted by Government for that purpose was £200 a-year. Last year this had been supplemented by a sum of £324 from the funds of the Academy, and yet they found there was not sufficient for the proper publication of the papers. They hoped now to be in a position to leave no paper unpublished that ought to be published. It was important that that should be known now at a time when he feared they were embarking on a rivalry—he hoped a friendly rivalry—with another institution.

The entire draft having been put and adopted, the proceedings terminated.

The following new members were elected: Charles E. Burton, A.B., Observatory, Dunsink; George F. Fitzgerald, M.A., F.T.C.D., Trinity College; Robt. W. Lowry, B.A., D.L., Pomeroy House, Dungannon; M. O'Hanlon, M.D., Castlecomer.

## ADVERSARIA HIBERNICA,

### LITERARY AND TECHNICAL.

THE history of Irish nicknames, by-names, or surnames added to the original family names to distinguish some particular virtue, vice, or trait of character, or arising through other local circumstances in connection with individuals, would, if written, form an interesting and instructive volume. Nicknames, ordinarily speaking, are by-names used by way of reproach, but by-names are not all necessarily nicknames in the common acceptation of the word. Nicknames and by-names have been used from the earliest times, and are, perhaps, contemporaneous with all history in every land. In Ireland nicknames and by-names have been always or mostly *ascriptus glebe*, and indigenous to the soil and the mother tongue. By-names will be found associated with many of our early chiefs, pagan monarchs, and retainers, and in several instances these personages were better known by their by-names than their principal ones.

Let us instance a few of the pagan monarchs of Ireland far back in what is called the misty space, who were known by additional names, arising from causes that generally explain themselves:—Nuad the "Silver-Handed," of the Tuatha de Danaan

dynasty; Lugad the "Long-Handed," the twelfth king of Ireland; Aengus, otherwise "Olmucadh," a name that has given rise to some curious conjectures ridiculed by O'Flaherty in his "Ogygia." Ollamh Fodhla, the fortieth king of Ireland—Ireland's famous monarch and law-maker upwards of three thousand years ago—received his name, according to O'Flaherty, on account of his great literary knowledge, Ireland being called Fodla or Fodhla in the vernacular. The name of Eochaidh or Achy was first given to Ollamh Fodhla. Finnachta, the son of the preceding, succeeded his father on the throne in the age of the world 3923. We are told that during the reign of Finnachta snow fell in Ireland which had the taste of wine, and blackened the grass, and hence the name in common of Finnachta; but this, we think, is legendary. Finnachta's first name was Elin. Slanoll, another son of Ollamh Fodhla, is said to have derived his name from *Slan*, health, and *oll*, great; and Keating says he was so called because all his subjects enjoyed great health in his time. Ireland is said to have been free from all manner of sickness in the reign of Slanoll. He reigned twenty-six years, and, after his body had been five years in the grave, it did not rot or change colour. Wonderful healthy times these must have been, and the healing art must have worked marvellous cures on the bodies of these virtuous and vigorous pagans! Then followed Ged, with the "majestic voice," the brother of Slanoll. Sirna the "Long-Lived," the forty-seventh monarch of Ireland, according to O'Flaherty, was so called because he lived 150 years. Achy, or Eochaidh, the sixty-third king of Ireland, was surnamed "Fuarch," from the wicker hurdles that were covered with hides which he used in putting his men on shore from the vessels. Then we had Achy the "Huntsman," Lugad the "Red-Handed," Aed or Aodh the "Red," Reacht the "Red-Wristed," Hugony the "Great," Labrad the "Naval," Melga the "Praiseworthy," Aengus Ollamh the "Doctor," Olioll "with the Rough Teeth," Achy "with the Long Hair," and a host of other Irish, pagan, Milesian, and Celtic kings down the course of Irish history, many of them swelling forth in the full dignity of their cognomens.

Leaving ancient pagan and early Irish Christian history alone, and coming down to the middle ages, so called, we will find in several fields lots of cognomens, by-names, and nicknames. They crop up in the wars of Elizabeth, and before and after, and do not end with James II. or the Battle of the Boyne. Valorous princes and native chieftains and cowardly monarchs have got their due rewards at the hands of their countrywomen and countrymen. Chiefs who fought bravely and fell nobly have been canonised in endearing terms; and kings who deserted their flags have been anathematised in scathing words for all time.

In domestic life and public life in Ireland and elsewhere men have been known by harmless or stinging terms, as their actions might justify. Among the trading classes, working classes, and agricultural population cognomens, nicknames, and by-names have always been common in Ireland, and the custom is not likely to die out for a long time. The history of political and civic or trading life in Dublin during the last fifty years would supply numerous instances of the most amusing cognomens and nicknames, but we shall not be invidious in quoting many well-known examples, fearing to hurt the tender susceptibilities of some aged sons and less aged grandsons who are no doubt proud of the great business habits and wonderful perseverance of their grandfathers, who often "stooped to conquer."

Ireland is not only the "Isle of Saints" but the veritable land of nicknames. They swell from the Castle and circulate current through the country; they are indigenous to high and low levels; they come from the mints of the Coombe and the Liberties, and fling out echoes at Stonybatteer; they rise like the curling vapours of morning from the moist

lands of Mud Island; they ring out in sonorous tones from the iron throated and steel-tongued Amazons of Pill-lane and other historic purlieus north and south of the Liffey; they reverberate from the shambles, and whistle along our quays; and a sympathetic chorus from the civic magnates often follows from Cork-hill, wishing them long life in their mission for sake of the land that gave them birth, and the sons and daughters of the people who first put them in motion.

In one of Swift's letters to Dr. King, the Archbishop of Dublin, bearing date London, May 23rd, 1713, there is a curious paragraph concerning the intended spire for St. Patrick's Cathedral, which spire was not erected till some years after Swift's death, and in a far different manner than that contemplated by the Dean. In his letter Swift writes:—"As to the spire to be erected on St. Patrick's Steeple [tower], I am apt to think it will cost more than is imagined; and I am confident that no bricks made in that part of Ireland will bear being exposed so much to the air; however, I shall inquire among some architects here." We wonder what the London architects' opinions were whom he consulted. A lofty brick steeple of Irish-made bricks would, if erected, have been a novel sight in the City of Dublin in the eighteenth century or even to-day. The present steeple of St. Patrick's owes its erection to the bequest of Dr. Sterne, the predecessor of Swift as Dean of St. Patrick's. Dr. Sterne afterwards became Bishop of Clogher, and he bequeathed in 1749 £1,000 towards the erection of St. Patrick's steeple. It is an octagon, as most Dublin readers know, of white mountain granite. The tower is about 120 ft. from the ground, and the spire 103 ft. This spire was erected after a design of George Sempie, the architect of old Essex Bridge and Swift's Hospital. When it was finished a gilt ball was attached to the top, which in after years was blown off. During the "restoration" of St. Patrick's, through the liberality of the late Sir Benjamin Lee Guinness, M.P., some years ago, the final or a new one was added to the spire of Sempie. The spire appears to have been a solidly constructed piece of work, but from the lowness of the site of the cathedral the spire presents a rather heavy appearance, notwithstanding its height. Except upon elevated land a good distance outside the city, it is not visible from the north or west of the metropolis. The readers of the "Drapier's Letters," and the lovers of Swift in his lifetime, if they did not build the Dean a brick steeple, they *aspired*, many of them, on the Liberties and Coombe to honour him in other ways, and they always found in him a true "brick," to use the technical jargon of our time.

The falchion's blade may shiver  
Stone walls in time will sever;  
'Tis mind alone, worth steel and stone,  
That make men free for ever.

When did joiners and cabinetmakers become two distinct trades, or when did the carpenters split into two branches in the building trade? In Ireland, carpenter and joiner have always, as far as we are aware, been convertible terms, but in England it is not so; those workmen who perform the heavy work such as roofing, joisting, flooring, and all sorts of heavy centring and framing being called carpenters, while those who execute the fittings, trimmings, and interior work appertaining to doors and windows, &c., being called joiners. Of course in several parts of England carpenters and joiners are one and the same; but for long years in London in most large shops the workmen are distinct. Properly speaking, we hold that cabinetmakers are joiners proper, for they deal more with glue-joints, dovetails, and veneering than the so-called joiners of the building trade, who, though they make glue-joints and dovetails and scarf timber, do not, as a rule, manipulate on fancy woods like their brothers of the cabinet trade.

Among the old city guilds of Dublin existing before the passing of the Municipal Reform Bill, there were guilds of carpenters and joiners. The representatives of the former in the last century were mostly builders or members of one or other branch of the building trade, while the representatives of the latter, or joiners, were often cabinetmakers or musical instrument makers. Among the present city guilds of London there are nominal carpenters' and joiners' guilds, but their masters, wardens, and other representatives may be, and often are, of other trades and professions. Cabinetmakers in Dublin in the last and early years of the present century was a very exclusive trade, and it was rather difficult for poor parents of the Catholic persuasion to get their sons apprenticed to it. With members of the Protestant communion it was otherwise. Heavy premiums were, however, exacted for indoor apprentices, and premiums were also exacted for outdoor apprentices, or two or three years without any wages. For the last fifty years in Dublin all trades have undergone a great revolution, and are pretty free to all who chose to follow them. The cabinet trade has during the period mentioned suffered much depression, and many of the old manufacturers who turned out splendid work have died out, and are no longer represented by legitimate successors.

A good deal of foreign work is imported—English and so-called French, and gilding, japanning, painting, enamelling, and non-descript forms of veneering are presented, instead of the substantial, well-framed, and close-fitted work of former years. Joists are often hid from sight in these days with a coat of colour or compost; but chair legs, sofa legs, or "stump" table legs and other legs and backs and elbows and arms soon exhibit the mysteries of their union in creaks and open joints. Good English and Irish work is, to be sure, in the market; but there is a very large amount of bad cabinet-work, and chair and sofa work also, imposed on the public.

We have begun to notice, too, of late years, that the Curtain-road warehousemen or manufacturers, either from their own workshops, or through the hand of their sub-contractors or chamber masters, are turning out a good deal of inferior work in some branches of the cabinet trade. The introduction of marble tops or slabs in connection with tables, side-boards, &c., in some instances is certainly an improvement, but we must sternly condemn the slip-slop, slapdash system adopted of late years in the insertion of mouldings. Formerly a cabinet-maker would be ashamed to be seen using a nail or a brad in the face of his work, but now cabinetmakers, without the least compunction, drive in through the face of a mahogany moulding a number of brads, punching the nails in, and then covering them over with coloured putty. On work that has to be polished this nailing system is a barbarous one, and certainly it exhibits a decrease of taste and skill in a historic and respectable trade. More anon, perhaps.

H.

### THE KEY OF A ROUND TOWER.

THE possession and the preservation of some of our national monuments exhibit to us comic aspects as well as strictly archaeological and architectural ones. Some members of the Drogheda Union are sorely exercised, not only in preserving the "right of way," but in keeping the key of the Round Tower of Monasterboice. We have no objection to see poor law guardians becoming conservators on the question of national monuments, though the guardians of our unions, as a whole, are not very conservative in respect to the public health, though they are in regard to their own pockets when any sanitary works are needed. The following report *verbatim et literatim* is from the local paper. It certainly does not say very much for the intellectual stature of some of the guardians,

though it is redeemed on the other hand by some traits of *amor patrie*. Although there is a good deal of the Barney Sheehan style of diction and argument in the language of some of the guardians, our readers will find some instruction or information as well as amusement in the report:—

Mr. McCullough, one of the rate collectors of the union, addressed the board with reference to the custody of the key of the Round Tower in Monasterboice graveyard, and spoke in smothered terms of endearment of his late friend Mr. M. Branigan, deceased guardian of the district, and Mr. Graham. He said the key was at present locked up in the house, and it should be left in the custody of the executors, because the house was near the place, and it would be handier. He asked to be given it.

Mr. McGown—It is better for us not to make any appointment to-day. We should first see who will be in Mr. Branigan's house.

Mr. Everitt—What had he to do with the key at all?

Mr. Dowdall—Some time ago the guardians appointed a caretaker over the place, and ordered Mr. Graham to give him up the key. This he refused to do, and the guardians ordered that an account of £40 for repairs executed by him at Monasterboice should not be given until he complied with the board's order. I told Mr. McCullough of that arrangement, and nothing was heard of the matter since.

Mr. Everitt—I met Mr. Graham a short time before his death, and he told me that he would never give up the key. He said he was appointed caretaker of the place by the Archaeological Society, and didn't acknowledge the guardians' authority at all. Those monuments, he said, were vested in that Society by the Church Disendowment Act.

Mr. L. Moore—That may be his story, but is it a fact?

Mr. Farrell—Everything in the graveyard belongs to the guardians. It is in our possession.

Mr. Everitt—You'll find that the monuments are not in our control. Under the Church Disendowment Act £40,000 were set apart for the object of repairing old ruins of this kind.

Mr. McCullough—I will write to Rev. James Graves about the matter. My dear, good, kind landlord is dead.

Mr. Everitt—Let Mr. Dowdall write to the Archaeological Society, and they will afford us necessary information.

Mr. Farrell—The men that the Archaeological Society sent to repair the tower couldn't get into the place without our permission.

Mr. Moore—I suppose this board can keep the £40 due now. It was forfeited by keeping the key. If Mr. Graham didn't think so he would have applied for it long ago.

Mr. McCullough—The poor man couldn't do so. He was tossed about by Mr. Branigan's illness; but for that he had the papers and all ready to make the guardians pay him the amount, and his representatives will recover it still.

Mr. Everitt—That's wandering from the question before the chair. What right had Mr. Graham to insist on keeping this key?

Mr. McCullough—What right had he? Why only for him the place wouldn't be fit to look at. He spent nearly all his time and money in repairing and keeping it in order.

Mr. Everitt—Wasn't it the Archaeological Society that repaired it?

Mr. McCullough—They did some, but a great deal had to be done by public subscription. I collected £60 myself, and Mr. L. Moore subscribed.

Mr. Everitt—Why £60 wouldn't put the scaffolding round the tower. However, its present excellent state of repair is a credit to the country.

Mr. McCullough (excitedly and stamping his foot on the floor)—I say, sir, it isn't a credit to the country. They acted in a disgraceful manner. Every opposition that could be offered was thrown in the way, and now when all is settled, other people that did nothing came forward and claim credit.

### THE LATE W. R. STEPHENS.

ANOTHER estimable citizen has passed from our midst in the person of the gentleman above-named. He was for many years a partner in the firm of Courtney and Stephens, ironfounders, of Blackhall-place. He was one of our oldest merchants, having commenced business, as we are informed, in 1818. His honourable principles, business-like capacity, and enterprising activity commanded the confidence of all who had dealings with him. He was interred on Saturday morning in Mount Jerome Cemetery.

### SANITARY MATTERS IN STRADBALLY.

At a meeting of the Guardians of the Athy Union, the following report was read from the medical officer of health:—

I beg to report that as there are main sewers being made in the Green and Court House-square, Stradbally, I have inspected several premises in the locality, and now enclose reports concerning them. In making the reports, I recommended that the same system of connecting yards with the main sewers be carried out in every instance—that is, steep traps and covered sewers; the entire should be made with glazed pipes and saddles like the new main sewer traps, should be set in good mason work, and the pipes at least 1 ft. from the surface at the starting point. I beg to suggest that your surveyor be directed to inspect the various premises, to draw up a specification for the making of these minor sewers, and that a proper supervision be adopted to see that the surveyor's directions be carried out strictly. With reference to the pollution of the Stradbally river by sewage from the town, as stated in a letter from Sir A. Walsh and William Young, Esq., I am of opinion that the water is not sufficiently impregnated by sewage as to be injurious to the health of fish or cattle; but to make the matter certain, I recommend that I be instructed to send samples of water from the river to your analyst to report thereon. WM. PERCIVAL.

A large number of the reports alluded to above were before the board from the doctor, in which notices in accordance with his suggestions were ordered to be served on the different parties interested.

Mr. Whelan—I think the suggestions of the doctor very proper.

Mr. M'Laughlin—He wants the surveyor to make out a specification, so that all the connecting sewers will be uniform, and of proper construction, to prevent the possibility of parties making a sort of drain that would not answer the purpose intended.

Chairman—With respect to that, I think it would be easy for us to fix on a proper plan for the connecting sewers, and insist on their being constructed in accordance with it. Your sub-sanitary officer could see to its being properly carried out.

Mr. M'Laughlin—I do not think it would ever be as satisfactory as if your surveyor had the supervision of it.

Chairman—The people are bound by the act of Parliament to put in proper connecting sewers. I do not think it would be legal for us to pay the surveyor for supervising the construction of them.

Mr. M'Laughlin—It is only intended to get him to make out a general specification, by which all the parties concerned would be bound to go.

Chairman—What about the pollution of the river?

Mr. M'Laughlin—There appears to be nothing but clear water flowing through the sewer now, and although it is apprehended that it will be worse in summer, I do not think so, for I am of opinion the yards will then absorb all the liquid.

Mr. Young—If you rely on Mr. M'Laughlin's theory that in summer nothing will flow through the sewer, and that in winter it is all pure water, I cannot see the use of constructing the sewer at all. However, I think what Dr. Percival proposes is perfectly fair. But what he told me was that a sample of the water should be taken from the river above where the sewer entered it, and another below where it emptied into it, and test both, so as to see what pollution had taken place.

Chairman—The question is, if the sewage of Stradbally is of such a nature as to require an extensive system of utilisation otherwise than into the river.

Mr. Brennan—Oh, such a thing would break the town!!

Mr. M'Laughlin—A portion of the sewage of the town has been running into the river for the past eight years.

Mr. Young—That does not matter. You are not allowed to run it into the river at all.

Chairman—We looked into the authority on that subject very closely, and I think you will find the sanitary authority can do so, subject of course to any person proving that such is an injury to the river. There is another matter I would wish to point out, that the bond for the construction of that sewer was actually signed before any complaint was made; and also that the gentlemen now complaining are members of the sanitary board, and that instead of bringing their grievance, if they had any, before their own board, they thought proper to write to the Local Government Board.

Mr. M'Laughlin—The probability is that if they had done so the sewer would never have been constructed at all.

Mr. Young—We do not want that; we are only anxious to have the evil mitigated.

Chairman—I am most anxious to adopt any course that would meet the views of all parties concerned. You could construct a tank, or endeavour to utilize the sewage by spreading it over some convenient land.

Mr. Young—As the sanitary authority is anxious to meet Sir Allen Walsh's views and mine, it might be better to allow the matter to remain over until we have the report from the analyst.

This course was adopted, and the subject dropped.

## HOME AND FOREIGN NOTES.

**PROPOSED EMMETT MEMORIAL.**—The *Nation* proposes to raise a memorial to Emmett by public subscription. No doubt many Irishmen will subscribe, although it partakes of an advanced national character. Bearing in mind Emmett's own words before his execution, the national party should hesitate to raise a statue or memorial to one who desired his epitaph to be unwritten, until his country "took her place among the nations of the earth."

**IRISH HISTORIC MATERIALS.**—The Marquis of Ormonde has recently afforded the Royal Commission on Historical Manuscripts access to a further portion of the valuable archives at Kilkenny Castle. These manuscripts—which are of high importance to English as well as to Irish history—will be examined and reported on by Mr. J. T. Gilbert, F.S.A., in continuation of his previous work in other sections of the same archives, already published by the Commission.

**ANCIENT IRISH MSS.**—The celebrated "Leabhar na Maolonaire," or "Book of Mulconry," a collection of ancient compositions in prose and verse, compiled about the latter end of the fifteenth century by the Maolonaire, has passed into the collection of manuscripts at the British Museum. It was formerly in the possession of Mr. Monck Mason, and, at the sale of his books and manuscripts in March, 1858, Sir William Tite purchased it. On the death of Sir William Tite it was sold to Mr. Quaritch, from whom the authorities of the Museum have just acquired it. The manuscript consists of 122 folios in small quarto, written by various hands upon the peculiarly dark-coloured vellum which is so characteristic of Irish MSS. of the period. According to Eugene O'Curry, whose list of the contents is preserved, there are no less than thirty different treatises in the collection, among which the most noticeable are a number of lives of saints, prophecies, rules of discipline, legends and adventures of religious personages, a poem on hell by St. Columba, various poems and prayers, pedigrees of saints, and an ancient historical romance, entitled "Brighthead-Coga." Transcripts of some of these pieces are preserved in the Library of Trinity College, Dublin.

**BUILDINGS IN CONNEXION WITH THE METHODIST CHURCH.**—The report of the chapel fund of the British Conference for the past year, shows some important and interesting items. In the building department it appears that the committee of management sanctioned 389 cases, at a total estimated outlay of £313,602. These cases include chapels, manses, schoolrooms, and organs—118 of the number are now chapels at an estimated cost of £185,578, or including modifications of former plans, £216,032. The number is larger than that of any former year, except that immediately preceding. 52 of the proposed new chapels are to be erected in places where there has been no chapel before, and the others are to supersede old or smaller chapels. Of erections formerly sanctioned and completed during the year there are 287, and embrace chapels, 14 manses, 12 schoolrooms, 58 alterations and enlargements, and 41 organs. The entire cost of completed erections was £291,136, and the debt left £51,339. After allowing for the sum realised by sale of old property the amount raised by voluntary effort was £222,552. The committee sanctioned 63 sales of old property, and in 36 of those cases new chapels are to be erected.

**RATHDOWN UNION.**—Amongst the business brought forward at a recent meeting of the guardians, it was reported that the fire-bars of the new steam stove having been burned out an account for replacing them was received, amounting to £2. The clerk stated that the contractor had undertaken to keep the stove in order for twelve months, and it having been but four months in use, this account should not be paid, as it would be liable to surcharge. After some discussion, it was resolved that the contractor should be informed that he was bound by the terms of his contract to keep the stove in working order for twelve months and to supply fire-bars during this period, a cheque for £2, already drawn in the matter, to be held over. At a subsequent meeting a letter was read from the contractor, stating that he would continue to supply

fire-bars, but trusted that if the auditor passed his account for these he should be paid for them. It was resolved that the board would require the contractor to hold to his contract to maintain the stove in good order for twelve months.

**BLACKROCK TOWNSHIP.**—At a meeting of the Commissioners on Wednesday a letter was received from the Local Government Board, intimating that the surcharge of £1,300 paid to Mr. Worthington for asphaltting footways would not be enforced, as the Local Government Board believed the Commissioners had acted *bonâ fide* in accepting Mr. Worthington's contract without having duly advertised the work. It also appeared that the work was done for as small a sum as if the contract had been entered into after the advertisement. The board, at the same time, impressed upon the Commissioners the necessity of having works of the nature duly advertised. Mr. Inglis said the Commissioners might congratulate themselves on the result of this question, although they had little doubt from the first what it would be. After an investigation which was pressed most pertinaciously by certain ratepayers—he would not say anything about the conduct of members—the decision was that the Commissioners had not to pay 1s. surcharge on the accounts for the past year. The chairman said the decision of the Local Government Board laid down an important principle that those who authorised the work, and not those who signed the cheques for it, would be surcharged in future.

A curious lawsuit involving a question of artistic rights has just been concluded in a French court. As the same question, we should suppose, often occurs, its legal solution is likely to be a matter of some interest. Twenty-five years ago, Ingres received a commission from the husband of a very beautiful lady for a portrait of his wife. The artist was delighted with his subject, and his finished portrait of Madame Moitessier is generally considered one of his best works. But before attaining this amount of perfection Ingres painted his beautiful sitter twice, beside making a number of different sketches and studies before he could please himself. Both the finished pictures were taken and paid for by the husband, but the sketches naturally remained in the artist's portfolio, and passed with his other drawings to his widow. Lately, however, one of these portrait-sketches has found its way into the market, or rather was offered to M. Moitessier before being put up to public sale for a sum of 3,250 fr. But M. Moitessier not only declined to purchase, but denied the right of the painter's heirs to dispose of the sketch, asserting that it ought either to be given up to him or destroyed, a painter having no right, unless especially authorised, to use the features of his sitters for commercial purposes. The civil tribunal to which this embarrassing artistic question was finally referred did not, however, adjudge either of these alternatives necessary; but on the other hand it has given a verdict in favour of M. Moitessier, by deciding that sketches, studies, and drawings made by an artist preliminary to his painting a portrait, constitute a peculiar sort of artistic property that cannot be exhibited or sold without the authority of those interested, and that therefore in the present case the sketch in question may remain the property of the representatives of Ingres, but can in no case be publicly exhibited or sold by them. The question at the present day, when photographers as well as painters are employed in portrait-taking, assumes a considerable importance, for the latter artists at all events, we imagine are sometimes apt to exhibit their successful likeness of a beautiful sitter without any distinct authorisation.

## TENDERS.

For internal alterations and improvements to Sandys-street Presbyterian Church, Newry. William James Watson, architect:—

|                               |          |
|-------------------------------|----------|
| Collen, Brothers .. ..        | £772 0 0 |
| McShane and Lavery ..         | 740 10 0 |
| Wheeler and Watson (accepted) | 692 0 0  |

## TO CORRESPONDENTS.

R. A. (Belfast).—Gandon died about 1822, and Johnston in 1828. The former was English by birth, and *par excellence* the best Irish architect of his time. The latter was a native, we believe, of Armagh.

J. C. W.—The aqueduct mentioned derives its name from the Speaker of the Irish House of Commons.

AN INVESTOR.—We decline to express an opinion upon the soundness of the concern, so many hollow companies of the kind have so lately come to grief in London. Better to hold the principal without interest yourself than to risk principal and interest.

NOT QUOIEM.—Your *nom de plume* expresses very truly the character of the general meetings of the Corporation. "The beginning of the end" has long since arrived, and a

very miserable anti-climax it presents to the dreams of hopeful municipal reformers.

RECEIVED.—F. R.—H. B.—A Working Man (yes).—C. E. (to hand).—J. R. L.—M.D.—T. C., &c.

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We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

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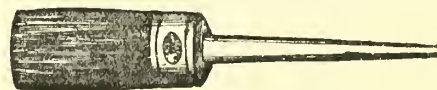
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## Contents.

|  | Page |
|--|------|
| DUBLIN PORT AND DOCKS IMPROVEMENTS .. ..   | 65   |
| Contagion Killers and Carriers .. ..   | 66   |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Seventeenth Part .. ..  | 67   |
| Samuel Ferguson .. ..  | 68   |
| The State of our Streets .. ..   | 68   |
| Lectures on Architecture .. ..   | 69   |
| Technical Education in Belfast .. ..   | 70   |
| The Diary of a Drain .. ..   | 70   |
| Drainage .. ..   | 73   |
| Greek and Roman Art—Their Connexion with the Teaching of the Classics.—Lecture V. .. ..      | 73   |
| Adversaria Hibernica—Literary and Technical .. ..  | 74   |
| The Royal Irish Academy .. ..  | 75   |
| Notes on the Early History of the Irish Stage .. ..  | 75   |
| The Resting Place of Cleopatra's Needle .. ..  | 76   |
| Some Points in the Law relating to the Arbitration Rules of Benefit Building Societies .. .. | 76   |
| New Convent Chapel, Bantry .. ..   | 77   |
| Rise of Wages in the Building Trades .. ..   | 77   |
| Amateur Literature and Journalism .. ..  | 78   |
| Drumcondra and Glasnevin Township .. ..  | 79   |
| Royal College of Science of Ireland .. ..  | 79   |
| G. P. O.—A Reminiscence .. ..  | 79   |
| Home and Foreign Notes .. ..   | 79   |
| Tenders .. ..  | 79   |
| To Correspondents .. ..  | 79   |

## THE IRISH BUILDER.

VOL. XX.—No. 437.

## DUBLIN PORT AND DOCKS IMPROVEMENTS.



THE Report of the "Accounts of the Receipts and Expenditure of the Dublin Port and Docks Board for the year ended 31st of December, 1877," before us, suggests a retrospective review of works done for the improvement of the Port and harbour of Dublin during the last century and a-half; but we must defer the task till another occasion. We append below the report of the able engineer of the board (Mr. Bindon B. Stoney), and will content ourselves for the present in giving a few figures from the report of the secretary (Mr. N. Proud).

As regards shipping matters, we find that a total of 1,973,781 registered tons of shipping entered the harbour during last year, being an increase of 93,895 tons over the previous year. The dues received from tonnage amounted to £60,250 18s. 10d., or £2,250 4s. 5d. more than last year. On the North Wall extension during the year the sum of £12,512 11s. 4d. has been expended, making a total expenditure since the commencement, exclusive of plant and dredging, of £85,552 11s. 2d. The deepening of the North Wall steam berths includes the final payment of £2,502 7s. 4d., making the total cost £74,427 3s. 10d. *Re Carlisle Bridge* re-building, and the new opening bridge over the Liffey at Beresford-place—for which the Treasury has agreed to advance a loan not exceeding £130,000, at the rate of 4 per cent. interest, and to be repaid in twenty-five years—Mr. W. J. Doherty, who has been declared the contractor for both works, undertakes to complete them within two and a-half years from the 5th of July, 1877, for the sum of £110,269 odd. The sum of £6,422 odd has already been paid on account of both works, which are proceeding. The sum of £989 odd was expended during last year on the south quays in paving the roadway at the deep-water berths on Sir John Rogerson's-quay.

The dredging operations for straightening the river channel and maintaining the improved depth for the larger class of vessels now frequenting the port, was continued during the year. The total number of tons of dredged stuff raised in the year was 916,730. The Custom House Docks account shows a balance in favour of the Board of £3,408 12s. 11d., after an expenditure, on account of new works, of £2,119 odd. The total amount due on mortgage bonds of the Board on the 31st of December, was £256,150, and the annual amount of interest payable thereon, £10,856 7s. 6d. The liabilities of the Board at the close of the year, were £330,734 11s. 4d., which sum includes the debenture debt; and there are also arrears of interest on debenture debt, £1,208 (Irish).

We must, in conclusion for the present, bear evidence to the promptitude with which the accounts of the Board are made public, and so unlike some other public bodies, whose officials are not only months in arrear, but, in some instances, years behind in furnishing their reports.

## ENGINEER'S REPORT.

*Carlisle Bridge and Opening Bridge at Beresford-place.*—Tenders for these works were invited by public advertisement early in April, and in the following month Mr. William J. Doherty, who sent in the lowest tenders, was declared the contractor, and he forthwith took possession of the ground. At the close of the year a large amount of temporary staging had been erected at Carlisle Bridge and the cofferdams for the north abutments of the side additions were completed. The north-east abutment and the adjoining wing and quay walls were, with the exception of a short length next the old bridge, built up to 3 ft. over low water level, and the two north caissons were completed and ready for lowering and the south-east caisson was in process of erection on the river staging. At the Opening Bridge the south cofferdam was closed, and pumping machinery, steam cranes and other appliances were erected, and temporary staging was driven around the site of the central pier. The south abutment and portions of the adjoining wing and quay walls were built up to the springing course of the arch, and some of the excavation was taken out for the foundation of the south pier.

*North Quay Extension.*—The progress of this work was very slightly less than usual, notwithstanding that the diving-bell was occupied for several weeks in summer preparing the foundations for the proposed light-house at the end of the North Bull Wall. 367 ft. of blocks were laid during the year along the north side of the extension and the west side of the basin, the corner was satisfactorily turned and the superstructure completed to the coping level for a length of 303 ft. The formation of the ground between the two walls of the extension has made fair progress, but it has been frequently interrupted by the dredge floats being required to supply sudden large demands for ballast to shipping.

*Tramways.*—A tramway has been constructed on the North Wall along the new shed opposite the stores of the City of Dublin Steam Packet Company, and a turntable has been constructed and a branch line laid through Guild-street to connect the quay line with the railway system. A second tramway, three turntables and wagon stops have been constructed at the east end of the North Wall opposite the new terminus of the Great Southern and Western Railway. When these tramways are in operation they cannot fail to be of considerable use in relieving the street traffic. Their cost will be defrayed by the companies at whose instance they have been constructed.

*Lighthouse at End of North Bull Wall.*—

During the summer a large quantity of stone was removed by the diving-bell while sinking for and preparing the foundation of the proposed lighthouse at the end of the North Bull Wall, and two blocks weighing collectively nearly 700 tons were laid in place by the floating shears. This work will be resumed as soon as the season permits.

*Custom House Docks.*—The low ceiling over the dock office has been removed, so that it is now much loftier, and the ventilation is greatly improved; and a commodious addition has been made on the east side. The water mains have been extended in accordance with Captain Ingram's suggestion, and hose and other fire appliances have been supplied. The road from the inner bridge to Commons-street, along which there is very heavy traffic, has been paved with both timber and Welsh sets, and a considerable area of the quay north of the inner dock has been paved with pebble pavement for the coal trade. Extensive repairs have been made to the roof of various warehouses and are still in progress, and the defective carriage and rails underneath George's Dock rolling bridge have been replaced with a new carriage and rails, and a movable foot bridge has been erected at the entrance to the old dock.

*Ardrossan Store.*—A large store has been built over the vaults in the Queen's Timber Yard for the use of the Ardrossan Steam Packet Company. This is completed with the exception of some minor matters connected with the drainage which will shortly be finished, and the store has been occupied by the company, who will pay interest on the outlay in addition to the ground rent.

*South Quays.*—The paving commenced in 1876 along the deep-water berths at Sir John Rogerson's-quay has been extended, and at present 1,260 ft. in length have been finished, and prove of great advantage to the heavy carting trade at these berths.

*North Quays.*—Several large timber fenders have been erected at the berths allocated to the London and North Western Railway Company, and iron fence rails have been erected for the protection of the public, opposite the passenger doors in the shed allocated to the City of Dublin Steam Packet Company.

*Wharves.*—The narrow portion of No. 1 wharf at the first berth east of Commons-street has been widened about 12 ft. for a length of 131 ft. This enables the London steamers to lie afloat at nearly all states of tide, and removes them further out from the influence of the sewage discharged from the main sewer in Commons-street. The fender piles at the berth allocated to the Barrow Steam Packet Company have been lengthened so as to fend off their screw steamers at extreme low waters.

*Dredging.*—Advantage was taken of the comparatively small number of oversea vessels in port in the early part of 1877, to clean out the whole length of the deep-water berths along Sir John Rogerson's and Great Britain quays, for which there had been no favourable opportunity since the completion of the new quay walls. About 900 ft. in length of the deep-water berths on the north quays were also cleaned out in the same manner, when the work had to be stopped in consequence of a large fleet of oversea vessels coming into port. Much loss of time and expenditure is incurred when dredging near quays, in consequence of the frequent interruptions from vessels going in and out of berth, which compel the dredgers to work in a very irregular manner. A large area of the North Wall Basin has been dredged out to a depth of 24 ft. below low water, and the berth in front of the widened part of No 1 Wharf has been deepened to about 13 ft. in line of keel. The extension of the trawlers' pond eastward, and the widening and improving of the river channel between Ringsend and the Pigeon House, have been diligently prosecuted whenever other necessary works permitted it, and it has rarely occurred during the past year, that vessels have taken the ground in that part of the channel.

## CONTAGION KILLERS AND CARRIERS.

BY A FREE LANCE.

THE prevalence of a smallpox epidemic in certain districts has either suggested to some of our medical journals, or they have been reminded otherwise, of some unsuspected sources of contagion. It happens, however, that all the possible sources of contagion remarked upon have again and again been pointed out in other pages. The mingling of infected linen in laundries, the exposure of cast-off clothes in second-hand markets, the using of cabs that have conveyed infected persons to hospitals, and even the writing and postage of letters by persons labouring under the disease, or through other persons living in houses and attending upon persons lying ill of fever or smallpox, &c., are or may be possible sources of contagion, and have more than once been adverted to. Warm and sweating coppers taken out of infected persons' pockets and paid over the counter to shopkeepers, are also possible carriers of contagion, and therefore poor traders in poor neighbourhoods, depending upon the custom of the poor, and in constant intercourse, are exposed to risk in times of epidemic.

There is one possible source of contagion that medical men with characteristic modesty avoid pointing out, yet it is as possible a source of contagion as any we have mentioned. The question may be boldly and honestly asked, Are not doctors themselves in their various visits to the poor and rich, and making from twenty to fifty calls a-day to patients ill of various zymotic diseases, possible carriers of contagion? Medical men, doubtless, are cautious and careful in their visits and contact, but we all know that they can claim no immunity from attack, and that typhoid, typhus, or smallpox strikes them down as well as other people. It is an open question, therefore, during times of epidemic, whether a special staff of medical men should not be organised under respective local boards, whose visits alone to the poor should be confined to smallpox patients or other malignant and contagious diseases. The difficulties at first sight are of course obvious. The rich and well-to-do prefer keeping and isolating the members of their family at home who may be suffering, and sending the younger members liable to contagion to a distance. The middle class generally take pattern, unless it is in the case of a domestic, who is generally "packed off" to the hospital or home to her parents, when the symptoms are setting in, and in some instances when the eruption is breaking out. The cabman, bus or tram conductor, or the railway officials, are always kept in the dark, so the contagion is often spread on the way, and is often carried immediately from town to country in a few hours. Then, again, the more respectable portion of the working classes often stoutly resist going to a smallpox hospital, and the medical man who attends the family is not expected to break the confidence reposed in him, and with honour, as a matter of course, he endeavours to do his best by his poor patients as well as by his more wealthy ones. Professional etiquette and public duty come into collision, and we need not point out, from the very nature of things, which goes to the wall.

For some months back the writer has watched the course of a smallpox epidemic in more than one district in Ireland and England, and some very curious phases of

it have come under his observation and personal knowledge. Some very strange cases have been seen, coupled with some strange practices, and odd methods of treatment,—odd or new to those only, of course, who never had witnessed their adoption previously. We are not prepared to say to what extent the medical system of Hahnemann is gaining ground in our midst, nor are we concerned just now in declaring for or against allopathy or homœopathy. We only record simple facts when we state that during our experience and visits from place to place in the north-east and eastern districts of London, for a considerable time past, we have found the homœopathic treatment in a variety of instances adopted, and particularly so in cases of fever and smallpox among the middle and working classes. Strong and reliant beliefs are held by many with whom we have conversed on the value of homœopathic treatment for not only effecting a certain cure, but preventing contagion—in fact killing the disease in the germ.

We have found in some instances in well-to-do families, members of which were suffering from smallpox, a treatment comprising a combination of hydropathy and homœopathy. The process of "packing" with wet sheets well wrung out, enwrapping the patient around and outside these, a folding of blankets being the hydropathic portion, homœopathic medicine in certain doses being the other portion, varied according to the different stages of the disease. In a clergyman's family three cases of smallpox occurred which came under our notice. The first was the case of a girl about eight years old. The "packing" process, and the homœopathic treatment were adopted, and we must say with considerable success. The eruption was brought out quickly and completely, and there was a rapid recovery. The housemaid in the family next sickened, and the clergyman's wife offered to her domestic the alternative of staying in the house, and of procuring a nurse from a hydropathic establishment in the country to attend her, as well as the attendance of a homœopathic doctor. The domestic preferred going to one of the metropolitan hospitals. The case in a few days became a malignant one, and the poor housemaid died in the hospital. We cannot say with accuracy whether she had been vaccinated in youth; but though smallpox was in her mistress's dwelling some weeks, she had not been advised nor did she offer herself for re-vaccination. A young gentleman, a friend of the clergyman, when the housemaid was not expected to recover, went to the smallpox hospital to see her at her own request to take directions from her as to the disposal of her worldly goods. Standing by her bedside he sickened with the effluvia, went home, and in a few days was prostrated under a very severe attack. At one time he hovered between life and death, and hope had been nearly extinguished. Another doctor was called in, both homœopathic; a hot bath of high temperature was tried with the patient, and sleep, that for several days and nights refused to soothe him, came after the first bath. A second hot bath was repeated the following day, and sounder sleep succeeded, and in a day or two a rapid recovery set in. There was no re-vaccination in this case either, although the patient was a believer in its beneficial effects when properly performed. In the case of the little girl first mentioned,

there was no vaccination at all, although some of her brothers and sisters were vaccinated and some were not; and one of her sisters, who was not vaccinated, was attacked during the previous epidemic in 1871, suffered severely, but recovered in a much pitted condition.

The case of a city clerk came under our observation, who caught the contagion, or rather the contagion caught him, he does not know which, but he supposed in a chemist's shop, in a district where smallpox was prevalent. The eruption was a partially suppressed one, and did not come out well. His medical adviser was of the ordinary allopathic class. With good nursing and attention he recovered, but slowly, and as a wind-up towards convalescence, before going to business, he took a run to the sea-side for a week. There were two servants in his own home during his illness, and his wife and four young children. As soon as the doctor declared that his case was one of smallpox, the whole household were at once re-vaccinated, and all escaped the disease. In another respectable house, one of the grown-up daughters took bad with smallpox, and that day week she was up and well, sitting at dinner with her father, mother, and sisters. This was a case of homœopathic treatment, but we think there was much imprudence manifested in not isolating the members of the family, when smallpox was in the house. Some of the members of this family and their friends hold the belief that the homœopathic doctor who attends them can prevent the non-infected in the house from catching the infection, by merely taking the preventative doses he prescribes for their use.

Here is a very reprehensible instance, among others, of exposure, that came under our notice. A butcher's man, or assistant, called upon a doctor for advice while labouring under a smallpox attack. The medical gentleman espied at once the state of his would-be patient, and advised him to get home as fast as he could, and see about getting into the hospital. "Oh," replied the butcher's man, "I cannot do that; to-day is our busy day, and I have to attend the stall!" Here was an instance of a man with the eruption out on his body, attending a butcher's stall on one of the busiest days in the week, cutting up beef and mutton crying out, "will you buy, buy, buy." Were it not too serious for joking, the words in the butcher's mouth might truthfully be transcribed into "will you die, die, die?" We might multiply cases of wanton and criminal exposure, and of dangerous concealment in respect to smallpox and malignant fever, and of many remarkable cases of cure under homœopathic as well as allopathic treatment, and of a union of hydropathic with homœopathic; but we forbear, as "testimonial" writing in favour of any special medical system is not our object.

We have arrived at one unalterable conclusion—a conclusion arrived at years ago, but again and again strengthened by all we have witnessed—that personal and public cleanliness is one of the surest preventatives of contagion, and that a dwelling with filthy surroundings is a danger to those who pass and move without, as well as those compelled to live within it. In a variety of cases that we examined for our own satisfaction we found the dwellings where smallpox and fever visited were either badly drained, badly constructed, or defective in ordinary sanitary

requirements. In recently-built houses on bad foundations, smallpox, scarlet fever, measles, and other zymotic diseases were found to be prevalent, and often recurring. During the last few weeks, owing to excessive damp, many of the dwellings we entered had their walls reeking with moisture, and this was the case in several old houses, as well as those more recently built. We saw the water trickling down front and back, and internal staircase, and bed-room walls, and even the handrails of stairs were wet with moisture.

The condition of the majority of the cheap speculative class of dwellings in low neighbourhoods has been miserable during the closing days of the late year. Considering the bad materials of which many of them are built, dry-rot is inevitable and illness quite as certain. No system of medicine can be successful in reducing the rate of mortality, or saving a community, or an individual, which builds all its hopes in curative processes, instead of preventative methods. Flesh and blood is flesh and blood. Cleanliness is the great purifier and preventative, and dirt, as ordinarily understood, the great corrupter. These facts are as firm and as unalterable as our solar system.

#### NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

##### SEVENTEENTH PART.

THE publishing house of William Curry, jun., and Co., 9 Upper Sackville-street, stands out prominently for upwards of thirty years in the literary annals of Dublin. The late William Curry commenced business about 1826, and was the publisher of the *Dublin University Magazine* from its establishment in 1833, and for several years afterwards. From his house were issued numerous works, national and general, political and religious, antiquarian and topographical sketches, and Irish tales, sketches, poems, &c. The list, if given, would be a voluminous one, and the writers included most of the prominent native authors in various fields, many of whose names have already been mentioned throughout these papers. Besides the *University Magazine*, Curry issued other series from time to time; the *Christian Examiner* was continued for several years, having among its contributors Cæsar Otway, Carleton, Dr. Singer, and others who contributed also to the pages of the *University Magazine*. The *Irish Pulpit* published by Curry, comprising several volumes, contained a collection of original sermons by clergymen of the Protestant community in Ireland. Several of Lever's early novels appeared in the pages of the *Dublin University Magazine*, of which the late racy novelist was for several years the editor. Simultaneously with the appearance of some of Lever's stories in the magazine, Curry issued the story in monthly parts. It is somewhat difficult to obtain information as to the rate of remuneration paid by Dublin publishers to contributors on the early serial ventures, published in the present century. We understood the rate of the *Dublin University Magazine* was about £3 per sheet of 16 pp., and we heard that Lever entered into an arrangement whereby he received £100 per month for editing, which included his serial story. The copyright of authors in their works was never in this country, as far as we can learn, clearly recognised or established as a system between publishers and authors. Some few here published the copyright of native authors' works, and are said to have seriously lost by them. Be that as it may, we have known London publishers of Irish works gaining a profitable return for their enterprise, and some Irish publishers, had they had sufficient public spirit, could have done the same. Our

Dublin publishers, we think, never sufficiently advertised their publications. A publisher's own lists or circulars are good in their way, but information should be sown broadcast in suitable journalistic channels, for homœopathic doses in pillules and dribblets are no use. The majority of the early writers of the *Dublin University Magazine* are in their graves, but a few are still hale and hearty in our midst. Among the more prominent of the early contributors were—Lever, Carleton, Lover, Ferguson, Anster, the two O'Sullivans (Mortimer and Samuel), Otway, Clarence Mangan, Sheridan Le Fanu, the late Sir William Wilde, Isaac Butt, and many others. The craftsman poet, J. D. Jean (the late John Fraser), a cabinetmaker, contributed, we believe, some poems to the pages of the magazine between 1842-50. John S. Folds, of Bachelor's-walk, of whose house we have already given some particulars, printed during his time most of the works published by Curry. It was during the time that the late James McGlashan, publisher, was in partnership with Curry that a number of Lever's works were published by the firm. William Curry continued in business in Sackville-street till about 1864, when he retired. Shortly after his failure this respectable old Dublin publisher went to his brother's in Liverpool, where he died about 1870. The old publishing house at the corner of Elephant-lane was taken down since Curry gave up business, and the site is now occupied by the Scottish Provincial Assurance Company.

James McGlashan (afterwards McGlashan and Gill, publishers, in Sackville-street, started in business soon after he left Curry, in 1846. He first opened in D'Olier-street, and in 1849 removed to Sackville-street, where he continued in business till he failed, in 1855. Besides being publisher of the *Dublin University Magazine*, McGlashan published many works in relation to Ireland in a variety of fields, and throughout a part of his career evidenced considerable enterprise. The works turned out of the firm of Curry's and those of McGlashan, were equal in mechanical get-up—printing, paper, binding, illustrations—to any in a similar way issued in London. On the 1st of January, 1856, the *Dublin University Magazine* passed by purchase into the hands of Messrs. Hurst and Blackett, the London publishers, for the sum of £750. At the same date, the stock, &c., of the publishing house, 50 Sackville-street, was sold to the veteran Mr. M. H. Gill, of the University Press, for the sum of £2,966 odd. It is not necessary to continue the history of the house, as we do not purpose, or did not purpose, carrying our subject further than midway in the present century, except when unavoidable incidents rendered the following up of a noted name or incidents in connection. *En passant*, however, we may add, that the publishing firm in Sackville-street still continues in the hands of Messrs. Gill and Son, and we trust it may have a long and prosperous career.

George Herbert, publisher and bookseller, of 117 Grafton-street, before starting in business on his own account, was with William Curry in Sackville-street, where he left about 1851. After McGlashan's failure, Herbert published for some time the *Dublin University Magazine*. Since passing into the hands of the London publishers, he has acted as Dublin agent. George Herbert has issued some respectable works since his start, and has done a respectable bookselling business. It is not our intention to write up or advertise any existing house in our notes, but we may incidentally remark here, that three volumes of sermons, by Rev. W. H. Krause, published by Herbert, has had a very successful sale, the publisher having sold 20,000 copies.

Ponsonby, a next-door neighbour of Herbert's, was first established in the bookselling business at the corner of Grafton-street (Nassau-street) several years ago, when the same row of houses and shops existed in a line with the College boundary as you entered Nassau-street. When these houses came down, owing to wide street improvements, the bookseller removed to 116

Grafton-street, his present place of business. Edward Ponsonby has occasionally published some native works during his career, both apart and in connection with London houses. For several years he has done a respectable bookselling business.

We may usefully interpolate here some dropped notes in allusion to the houses of publishers and booksellers already mentioned in the vicinity of College-green. Grant and Bolton carried on business for some years at 4 Dame-street, from whence they removed to 115 Grafton-street, opposite Trinity College. This immediate quarter, as you enter from College-green to Grafton-street, has been for long years a favourite one with old Dublin publishers and booksellers. Edward Milliken the son of Richard Milliken, mentioned in our last paper, was established for some time at 15 College-green. He ultimately went to London, where he died about eighteen months ago; was brought back to Dublin and interred in Mount Jerome Cemetery, where others of his family and relatives lie. W. F. Wakeman, already alluded to, carried on his publishing and bookselling business for some years at 11 D'Olier-street.

Goodwin, Son, and Nethercott, were established for several years previous to the middle of the present century as printers, and they did a respectable and for some time a profitable business. They printed on their premises, 79 Marlborough-street, many creditable works, amongst others the journals of the Celtic and Ossianic societies. They turned out some very good books printed in the Irish character, and a considerable amount of religious printing was done by the firm for religious organisations and institutions.

Pettigrew and Oulton, of 1 St. Andrew-street, beside the church, as printers succeeded George Folds in the same house and line of business. George Folds was the brother of John S. Folds, of Bachelor's-walk, already noticed, and, like his brother, after his failure emigrated, we believe, to America. Pettigrew and Oulton were bookbinders as well as printers, and for some years did a good trade. Oulton issued for some years the Dublin Directory, which was superseded by Thom's about 1843-4.

Alexander Thom, of 87-88 Middle Abbey-street, for long years her Majesty's printer in Ireland, is a printing house which has played a conspicuous part in the history of the trade, but it would be out of place to enter into long details of matters much of which would be of recent occurrence. At the same time, the house cannot be passed over without a brief notice. Alexander Thom commenced business in the third decade of the present century in a small way, and about 1830, if we remember aright, moved into Earl-street (North) from Mecklenburgh-street. His next removal was into Middle Abbey-street, where the establishment still continues, having grown during the last quarter of a century and upwards to very large proportions. Shortly after his removal to Middle Abbey-street, Mr. Thom got the printing of the *Hue and Cry*. He evidenced considerable enterprise and aptitude for business, promptly performed his orders, and turned out his work in a creditable manner. Orders grew upon orders, Government patronage was extended, and the establishment yearly grew apace.

Mr. Thom first married, we are informed, a Miss Ricardo, and, not disdaining the practical assistance of a few thousand pounds—which he availed himself of, and faithfully repaid the person who advanced it—he forthwith turned it to profitable account. He started the Almanac and Directory which bears his name, and succeeded in putting Oulton's and the Post Office Directory completely out of the field. Thom's Dublin Directory has within recent years grown into a gigantic volume, eminently serviceable and useful to repletion of names, figures, valuable statistics, and varied information. The thirty-fifth annual volume was issued this year. The bulky tome has been lately handed over by Mr. Thom to his son-in-law,

Mr. Pilkington, on whom now devolves its conduct and publication. A great variety of printing in all the various sizes has issued from the house in Abbey-street, with its hundreds of hands—reports, blue books, acts, returns, &c. Mr. Thom has also reprinted some rare historic tracts relating to Ireland, which are much sought after by book collectors, antiquaries, and others.

While on the subject of directories we may note here that the first Dublin Catholic Directory was edited and published by W. J. Battersby in 1836—a bookseller, author, and Repealer of some note in O'Connell's time, and who carried on a respectable establishment for many years at Essex Bridge. This Catholic Directory, Almanac, and Registry has been continued down till the present time.

Among other works compiled and written by Battersby were the "Repealer's Manual," full of useful information to politicians of the National and Repeal school. It is stated that O'Connell spoke highly of this work of Battersby's. The Catholic publisher, book and print seller, author, and enthusiastic Repeal agitator, was not fortunate in business, and experienced some of the hard vicissitudes of this life. Whether alive or dead the writer knows not. A daughter of Battersby's the writer remembers to have contributed some creditable pieces to serial literature, which were favourably noticed by some Irish journals.

Between 1840 and 1848, James M'Cormick was a rather noted Catholic and political character as book and print seller and publisher, in Christ Church-place, nearly opposite the Cathedral. During the Repeal Agitation of 1843, he published a series of cuts or cartoons, illustrative of current events in connection with the Government and O'Connell's movements. These cartoons were somewhat clever and pungent, and attracted a good deal of notice, and sold readily at the period. M'Cormick, during his time, made a few unsuccessful attempts in starting serial publications, and newspapers of a semi-newspaper and periodical character. Shortly after the issue of "Duffy's Library of Ireland," M'Cormick started, in 1846, the "National Library of Ireland," at the price of fourpence a volume (the price of Duffy's being a shilling). The volumes contained a considerable amount of matter for the price; were well printed on fair paper, with a green emblematical cover. The volumes, which ran for several months, had apparently a pretty good sale, but they had to contend against those issued by Duffy, and they were looked upon by a large number of the Young Ireland school, represented by the *Nation*, as an ungenerous opposition. Of course, the Young Ireland party were very much interested in the success of Duffy's volumes, for the "Library of Ireland" was one of their favourite projects, and owed its inception to Davis, Duffy, Dillon, Mitchel, M'Nevin, and others whose names need not be mentioned, each and all of whom worked to make it a success. Quoting from memory, amongst other volumes M'Cormick's "National Library" contained the lives of O'Connell, Curran, Grattan, Philip Roche; Fermoy's Commentary on the Life of Wolfe Tone; 'The Rising of '98; The Mercenary Informers of '98, and a volume on The National Poetry of Ireland. The issue suddenly ceased without any particular explanation being given by the publisher, but most likely the suspension of the series was for want of sufficient circulation to cover the expense of the production, and from the fact, also, that Duffy's volumes were first in the field. A remarkable fact about these volumes of M'Cormick's is, that in a very short time after the cessation of their publication, they became exceedingly scarce, and complete sets of them are now very rarely to be met with.

In 1847, M'Cormick issued a remarkable pamphlet in exposure of the Dublin Police system, "By John Flint, Ex-Inspector, and Secretary to the Police Grievance Association." This pamphlet created considerable surprise in Dublin, and alarmed the Irish Executive; and it was asserted that, in consequence

of this publication, M'Cormick had to fly to America to escape a Government prosecution. M'Cormick, however, if our memory does not prove us false, remained in Ireland till the summer of 1848. He published several issues of "The Black List," giving the names of those who voted for the Union, the honours conferred upon them, and the rewards and pensions they received, accompanied with other cognate political matter. He issued also "The Black History of Ireland," in twenty numbers, in 1848, giving "A complete History of the Great Rebellion in 1641, the massacre and murders committed on the Irish in that year," &c., royal 8vo. Copies of M'Cormick's issue are now very scarce. In 1848, during the Young Ireland agitation, he issued a broadsheet periodical called *The Irish National Guard*, which continued till the midsummer of that revolutionary year. Fourteen numbers of this periodical had already appeared when it was suppressed. The articles and poetry were of a hot steaming kind, like most of the national revolutionary literature of that impulsive era. Some of the Young Ireland poets contributed, including James Clarence Mangan. *The National Guard* was the last literary venture in Ireland of James M'Cormick, who, to escape arrest and prosecution left for America, dying in New Orleans not long after his arrival. The house in Christ Church-place existed for some time after M'Cormick's departure from Dublin, and the printing, bookselling, and stationery business was carried on by Joseph M'Cormick, one of the family. We believe the latter also made an unsuccessful effort in starting a small newspaper called the *Free Press*, which was discontinued after one or two issues.

The *Dublin Journal of Temperance, Science, and Literature*, which started on the 30th of April, 1842, was a creditable serial, well printed, and had several able contributors. It was specially started to aid in the Temperance cause, which it did pretty ably. Father Mathew evidenced his interest in it by ordering a hundred copies a-week for distribution. The veteran Richard Allen, and the late James Haughton, with other Temperance advocates, substantially assisted the publication. It was royal 8vo, of 16 pages, printed in double columns, unillustrated like *Chambers's Journal*, and published at the same price, three-halfpence. It lived through only two half-yearly volumes when it ceased. The first half-yearly volume was "printed at 22 Bachelor's-walk for the Typographical Total Abstinence Society, and published at their office 150 Abbey-street." T. Tegg and Co., of 8 Lower Abbey-street, after a few issues, became the publishers. Changes soon took place, and at the commencement of the second volume the journal was "printed for the proprietors at the office 32 Lower Sackville-street, and published by T. Tegg and Co., 8 Lower Abbey-street." Not many issues of the numbers of second volume appeared when another change took place, and the journal was "published by T. Le Messurier (late Tegg and Co.), 8 Lower Abbey-street," the printing still being done at 32 Lower Sackville-street. Still another change—a few weeks before the close of the second volume, T. Le Messurier's name is dropped as publisher, the journal being still printed for the proprietors at 32 Lower Sackville-street. On the title-page issued with the last number of the second volume appeared—"Dublin, George R. Tracy, 32 Lower Sackville-street. Sold by all booksellers, 1843." In this *Dublin Journal* appeared several well-written Irish tales, sketches and prose and poetry, and among the contributors were—Edward Walsh, Clarence Mangan, and J. De Jean (John Fraser). The periodical also contained a number of good social, literary, and historic essays. The "Scraps from Irish History," which appeared occasionally, and ran through several numbers, were well-written pieces of ballad history. The late Denis Holland, the founder of the present *Irishman* newspaper, a very young man at the time, wrote some of his

first and earliest essays in story writing in the pages of the *Dublin Journal* of 1842-3. J. J. Condon, of Waterford, contributed a number of respectable poems, but we cannot stop to particularise all the writers, which included several in various ranks of life from professed journalists, ladies, public men, merchants, and professionals, down to the artisan and labouring school. Among the two latter classes were some excellent contributors. A Dublin cabinetmaker, a Waterford blacksmith, and an humble Dublin porter, contributed some of the best poetry to the two volumes of the *Dublin Journal*. A biography of Thomas Furlong, the poet, which appeared in the first volume, was written by the latter. The unpublished MS. pieces of Furlong were handed over to the proprietors of the journal, for publication, by the late James Hardiman, M.R.I.A., the historian of Galway, and the sincere friend and patron of the poet during his lifetime.

#### SAMUEL FERGUSON.

So we still prefer to write his name, in friendliness and respect, for some of our earliest literary impressions are associated with our gifted countryman and his contributions to our native literature. But, early memories apart, we recognise in an honour about to be conferred upon Mr. Ferguson a just though tardy acknowledgment of his literary and professional services to his country and its government. It has been known for some time back that it was intended to confer the honour of knighthood on our distinguished and veteran *littérateur*. As a literary man pure and simple, poet, scholar, essayist, or industrious student in other Irish fields, legendary and historical, Mr. Ferguson has long since earned distinction. As an efficient Deputy-Keeper of Irish Records, he has well supplemented his other services; while as a professional advocate our Q.C. has exhibited much discernment and judgment whenever his services were called into requisition. Whether as plain Samuel or Sir Samuel Ferguson his name is still certain to be respected, and we are also sure all classes of his countrymen will be only too glad to receive with unalloyed satisfaction the tidings of any new honour that may be conferred upon him.

#### THE STATE OF OUR STREETS.

DIRT is still as plentiful as ever in our streets and in our courts, in various parts of the city. Numerous dust-pits are full to repletion; the Deputy Street Surveyor can only scratch his head, and repeat some of the facts to his Municipal masters, who hem and hum, and keep on "never minding." There ought to be a new hospital for Incurables built for the scavengers and broom and shovel men; and if there was room in Swift's, we would advise that some of the lunatics, and one or more of the committees should be sent there for at least three months. We dare say the paid officials, one and all, would prefer to be left alone, or superannuated on two-thirds of the salary. In sober seriousness, it is difficult to know how to speak many favourable words at present of any of the belongings of our Corporation.

THE BUILDING TRADES.—An English contemporary informs its readers that "the building trades of Ireland are suffering considerably from the depression at present existing throughout the three kingdoms. It is stated on good [?] authority, that there are between 9,000 and 10,000 men idle in Dublin."!! [We suppose this canard is from the "Green" correspondent. Upon making enquiry at two of the trades halls, we find that the number of men connected with the building trades in the city, unemployed, does not number 50.—ED. I. B.]

## LECTURES ON ARCHITECTURE.\*

AFTER announcing the particular points to which he proposed to direct attention in the present course of lectures, the Professor continued:—

It must be evident, at the outset of our preliminary inquiry, that the architect of to-day has difficulties to contend with which are peculiar to himself; and that if he be, in some cases, more free than his predecessors, he is in others far more trammelled by the exigencies of fashion and science, and by the many vacillations of public taste. We shall see, by and by, in treating of the Italian Renaissance, that the great artists of Italy could not avoid being influenced by the knowledge they possessed of ancient architecture, the ruins and relics of which they saw everywhere around them. These were a book to them, though sealed in a casket and in a dead language, until the enthusiasm for classical literature, kindled by their poets, pierced through the accumulated crust of ages, and by furnishing the key to the casket, set free its contents, while leaving, we trust, both for them and for us, hope at the bottom. The Italian love for ancient art was never dead. Here and there some indications of Renaissance were always appearing, and the opposing principles of the arcuated Gothic style were never heartily welcomed, or completely adopted. The architects of the day could not, therefore, shut their eyes to all that had been done before, and they could not, and did not, work in the single-minded manner which was only possible to those who, like the Northern Mediæval builders, knew but one style. The position of the Italians, particularly after the Renaissance, was, therefore, in some respects, not unlike our own. Having knowledge, they had incurred the responsibility of choice, and with various forms of art before them, they, like ourselves, were at liberty to use their freedom by selection.

The modern architect is implored by opposing schools to proceed in opposite directions. If he listen to the one, he must ignore the past, and set up for originality; if he consent to the guidance of the other, he must be satisfied with imitation of the works of bygone ages. All true artists are indeed original, in a certain sense, but a new and original style of architecture has never yet been invented. We can read the history of our art backwards, until all traces of origin are lost in the mists of a dim antiquity, passing through Rome and Greece to Etruria and Asia Minor, and thence to the almost mythical annals of Egypt and Assyria. In such investigations, the origin of forms which became gradually developed, and dominant, may be traced in the works of different tribes and races, leading up to, and culminating in, the perfection which is only to be achieved by persistent effort.

Architecture is thus surrounded with associations; it is a history, as well as an art. If it has been so in Italy, the case is not different in England. Here, we have had also a regular succession of recognised architectural forms. We do not, it is true, recognise the intrusion of the opposing influence of rival styles (except perhaps at first), but we find here also a development of design, which is in a high degree historical. The Saxon gave way to the Norman, in art as in politics, and the latter initiated a movement to be carried onwards through centuries. This movement gave us that which we term the Early English, the Decorated, the Perpendicular, and the Tudor; and lost itself at length in the Elizabethan and Renaissance of the Stuarts. Our ancient buildings reflect these changes. In them we find evidences of them all. Few are uniform in style. Norman towers, pointed arches, lancet windows, and perpendicular tracery are frequently found in the same edifice. Differences of ecclesiastical rule, as of the great monastic orders, have left their mark on the plans of abbeys and cathedrals, so that those who run may read a very history in stone. How is the modern

architect to deal with this history,—this record of olden days? If it be his duty to hand down to posterity that which he has received, he must at least see that it sustains no injury in his hands,—maintenance, at any rate, is necessary; and between maintenance and restoration the boundary is narrow. If an architect appeals to society for guidance, he is confronted at once by two, if not more, parties, each of which is full of confidence. He is at once brought into contact with the materialists of the present, and with the archaeologists, as worshippers of the past. The question becomes rapidly one of sentiment, rather than of architecture. Do not suppose that I say this in any spirit of disrespect. The day has never been,—it will never arrive,—when men can disregard the instincts of the human mind, and reduce all actions to a calculated system of dry reasoning,—a rule-of-three of hard facts, ignoring the qualities which have made men happy, and nations great. Architecture must ever be associated with those feelings which we call sentiment, and the question of the restoration of ancient buildings is one which cannot be treated in a purely architectural sense.

Let us inquire, therefore, what our various advisers would have us to do.

And, first, as to the materialists of the present. What say they? To-day is their day. Philosophy lends to them an epicurean disregard of aught that they cannot touch, handle, and enjoy. Science says to them, Why look back? You are the lords of the heritage, the salt of the earth. The present is your own; it will not last: make use of it quickly. Do your best with it; seize its advantages; let the future look to itself. You cannot resuscitate the past. You ought not, if you could. Forget it as soon as possible. Talk not of ancient buildings and historic monuments. They have had their day; it is now over; let them not cumber the ground, and encroach on the rights of the living. The philosopher, the man of science, the nicely-calculating constructor, the utilitarian engineer,—these are the men of the day, the magicians who wield the lever that can move the world. The inventors of railways and steam-engines, of gas, electric telegraphs and telephones, have nothing to do with mouldering ruins, and with "musty parchments." The present alone is ours: the past is gone; the future is all dark: "Let us eat and drink, for tomorrow we die." From the disciples of this school we cannot expect aid in our veneration for antiquity, nor is the case much more promising with those who, while disdaining the worship of the present, fix their eyes mainly on the future. To them, too, the past is dead. Its lessons are out of date, its maxims antiquated. It cannot be mended; what has been, has been. It has had its day. Life is too short, they say, for looking back; the present is even fading away as we gaze upon it. Let us fix our eyes on the future; let us shape that if we can. Each may do something, even in his own little sphere. We cannot mend the past; we are already too late for the present. The future is the true aim of those who would promote the wisdom and happiness of unborn generations. The latter class of thinkers agrees with the first, in refusing reverence to the past. The dead, they both say, cannot teach; vigour and life belong to the living; the past is left to bookworms and antiquaries. The aims of to-day are so urgent and all-absorbing, that there is no place left for the relics and remains of olden time. They are already smitten with decay. They must die. Bury them out of sight, and let them give place to a truer, because a newer, philosophy.

It is impossible for us, as artists, to accept this reasoning, nor are we left in doubt as to the views of its opponents. I have called the one class materialists of the present; let us now see what the other, the worshippers of the past, can say. They will tell us that no one can ignore the past, neither the nation nor the individual. If the child be the father of the man, so is the past the precursor of

the present, the warning of what shall be in the future. Our great buildings are precious heirlooms, to be neither destroyed nor tampered with. Look to them lovingly, treat them with reverence, sustain them with an affectionate and filial solicitude. Do not too hastily assume that we are wiser, better, happier than our fathers; continue old customs, and forget not, in the toil and bustle of to-day, the bright memories of antiquity.

Newness has ever a taint of vulgarity. It does not touch the institutions, the architecture, the traditions of an old country, which bears on its surface relics of many days, past and gone, and seems to connect the Middle Ages with the times before and after them, by means of ties as strong as they are imperceptible, and which have borne the tension of centuries. These things are to us a priceless heritage, not to be made, discovered, or bought, but to be cherished and appreciated. We cannot afford to lose that which can never be replaced. Our old buildings are in the same category with our national history, and must be as dear to us as the latter. If we would have our sons perform great deeds in the future, we must see that they respect the past; we must preserve its archives and traditions; and pointing with one hand to the memory of departed heroes, we may extend the other towards the dim horizon, which seems to bound the future, and say to the youthful aspirant, "Go and do thou likewise."

This brings me to the consideration of a third class of suggestions with which our architects must also deal. These are intimately connected with the sacred uses to which most of our ancient buildings in this country are devoted. The question of restoration has been associated with, if, indeed, it has not arisen from, a great religious and social change. Revivals of forms and ceremonies have had much to do with architectural restoration of churches, and, from the days of the Cambridge Camden Society, the clergy have been at the head of that notable movement, which has, to a great extent, caused the Gothic revival.

It is not unnatural now that, after so much activity, men should look around, and should begin to ask what has been the result of an age of restoration. One result is unquestionably to be seen in the public interest shown in such matters, and in the vast sums of money subscribed for works of restoration. Men have learnt to love the old structures which they formerly neglected, without a suspicion that their love might prove destructive. Costly buildings and crowded services are seen around us in all directions, and an ever-growing determination is apparent to attract the masses to our churches. If we have occasionally reason to deplore the effects of misguided reforms on the fabrics of our churches, we must, nevertheless, remember that there are human wants and sympathies to be recognised, to which even archaeological zeal must submit to be subordinated. Our churches are not mere tombs of the dead, but places of worship for the living; while protecting them, with jealous care, from the spoiler, they must yet be made suitable to their high purpose in the spiritual life of this our day. Full as they are to us of the chastening memories of the past, they must be regarded as something more than libraries of old-world learning, than museums of strange and curious art. They, like ourselves, have their duty to do to the present. To reconcile this duty with affection for the past is not always an easy duty for the architect; but it has to be faced. . . . .

If past days of deadness are to have their history, is there to be none of a revival of life and eagerness, of high intentions and lofty aims? If a church has been "restored and beautified," a hundred or a hundred and fifty years ago, by the village carpenter, can it be really contended that we must allow his ignorant botching to remain, because it is "historical"? and, if so, why is his claim on future history to be preferred to that of the better instructed restorer of the nineteenth century?

\* By Professor E. M. Barry. Delivered at the Royal Academy, London.

Our ancient buildings are indeed heir-looms, not to be lightly tampered with, but as most of them happen also to be churches, they must be used by the living, and must suit their requirements. They must be rescued from damp and decay, even if in so doing their picturesqueness be impaired, a picturesqueness not to be regarded if it arise from dirt, "or matter in the wrong place." They must be available for the sacred wants of the present time,—protected from a gospel of decay and death, which would hand them over to the owls, the moles, and the bats. While carefully regarding the claims of the past, our churches must be the well-used heritage of the living,—places to which men may withdraw from the turmoil and din of life, safe, if it be but for a moment, from the struggles ever going on outside their walls for rask and power and wealth: the things for which mankind will fight, and lie, and steal, and sell their very souls. To the vast number of earnest men, who regard our churches from this point of view, there is something saddening and petty in the exaggerations of mere archæology, which would hinder all improvements; while, to those who are practically acquainted with the urgent difficulties of daily life, and the need of church accommodation for our vast population, it almost sounds like a feeble joke to be told that they are to allow our old churches to go to ruin, while they build new structures for living use, side by side with their crumbling fragments.

And now, we return to the question, what is the modern architect to do? He cannot please everyone, he cannot admit that all historical architecture is of necessity good, or all restoration bad, although he must recognise that a time of activity is a time of mistakes, as well as of successes, and that all restorations of ancient buildings should be presided over by a conservative jealousy of change. If he be called upon to adapt an old church, for example, to the needs of a vast congregation, let him be careful not to outstrip these needs, from any fancies of his own, or desire to comply with the ephemeral fashions of the day. If it be his duty not to starve the wants of the present, it should be his pride to reconcile them, as far as may be practicable, with the historical associations of the past. He must be guided by common-sense, as well as by sentiment, and must be on his guard against nostrums. Among the latter is a too exclusive devotion to any one phase of bygone art, when such devotion leads to unnecessary interference with old work. Almost any of our old buildings are, as we have seen, an epitome of past styles. To this, they owe no inconsiderable part of their interest, and it is intolerable that all the latter should be sacrificed, as is sometimes the case, because the architect is persuaded that the "Middle Pointed," as he will perhaps call it, is the best style of architecture, to which everything should be made to conform.

It is said, and justly, that this is the spirit in which our ancestors worked; they cared not for old forms, and removed them without scruple. Our case, however, is different,—they worked in their own vernacular method, and knew no other; we are, at best, applying our grammatical knowledge of styles, which have ceased to be our familiar servants. It is not for us to construct an elaborate imitation of old work, and pass it off as a really ancient building. This is, in fact, to design an elaborate forgery. We have no right, therefore, to enter upon a work of restoration, with the intention of seeking congruity, by the application of our individual tastes. To do as little as may be absolutely necessary, should rather be our aim, and we should not be afraid to let such necessary work tell its own tale, in the after history of the building.

(To be continued.)

Dumfries Town Council has adopted the Gas Act, and the works of the present company have been valued at £21,000, for which price they will be taken over by the town.

### TECHNICAL EDUCATION IN BELFAST.

In the course of an address delivered at the Annual Meeting of the Chamber of Commerce, the President (Mr. James Musgrave,) reviewed the action of their body during the past year. He commented at length on the general condition of the various branches of industry, and made a few passing remarks on the subject of technical education, which he considered to be essential to the proper training of our artisans. He recommended training in the elements and general principles, at least, of mechanics, chemistry applied to physics, and, above all, practical geometry and physics to the arts. He referred to their present position and future prospects, which, he thought, on the whole, from the best information he could obtain, appeared to be favourable. First, and most important, there was no diminution in the employment of the people. The general trade of the town was, he believed, sound, and, speaking generally, fairly remunerative. They had already heard that the harbour dues (which were a fair test of the value of their trade) had increased during the year, and that there was a moderate increase in some of the principal exports.

### THE DIARY OF A DRAIN.

THE following are brief, *bonâ fide* notes of the writer's experience of a certain house drain which has, on more than one occasion, caused considerable anxiety to all concerned. We should not say all, for the causes were judiciously kept secret by the landlady from the knowledge of her care, which consisted of a number of young ladies—day scholars and boarders. The gravity of the situation may be fully understood, when it is remembered that a ladies' college has been running the gauntlet several times with grim Death, in one of its worst forms; and that drain fever, and brain fever, and zymotic outbreaks, have been narrowly escaped, at the cost of nausea, headache, diarrhoea, retching, loss of appetite, and bad singing, music, French, and German lessons on the part of the pupils:—

May 19th.—Another outbreak, being the third in less than eighteen months. Smell very offensive. The rats, with a colony of young during the preceding night, have been holding high carnival under the floor of the kitchen and breakfast parlour. The cat, a good one, and an excellent mouser, is sickening. The landlady writes to the estate agent, to send a man to examine the drain.

May 20th.—Morning damp and chilly; some rain during the night; drain smelling worse; rats very noisy during the night; no builder's man has arrived as yet, nor message from the office; the poor cat much worse.

May 21st.—More rain during the night; smell, at intervals, very bad; at 11, a.m., a juvenile clerk from the estate agent's office calls; he is probably about 16 years of age, and, of course, is a "practical man;" he smells, however, and acknowledges the effluvia is very bad; poor puss dies, 'twas a strange case of parturition; housekeeper and servant bury poor puss without her bells and boots in back garden.

May 22nd.—No abatement in the smell; the rats during the preceding night were more riotous than ever; landlady sends for a quantity of Cond's fluid; some of her friends advise her to try charcoal and chloride of lime; she thinks over it, vents some expressions against builders and bad houses, and expresses some anxiety to her confidants about her pupils and their parents.

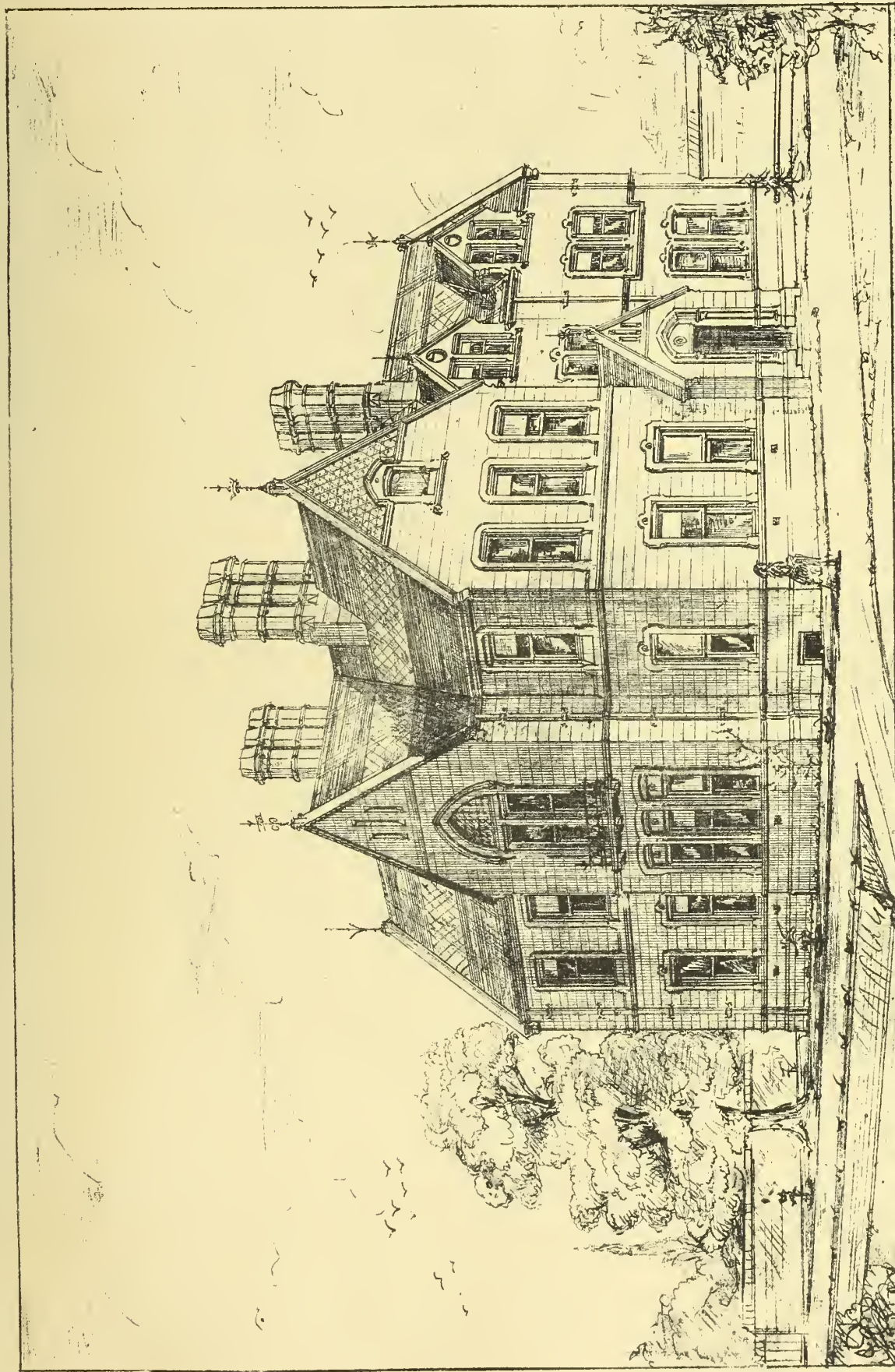
May 23rd.—"A handy man" arrives from the estate agent's and his foreman. The former is a civil and intelligent "Jack-of-all-trades," and sets to work after hearing the landlady's story, and the stories of others. The foreman is reminded that several in the house during the last few days have been retching, and that baby (yes there was an

angel in the house, but not the lady principal's) had to be brought up to the top of the house by its mother, a friend of the landlady's. The scullery and kitchen passage floor is taken up and several beaten paths of the rats discovered. Some holes are stopped up in the scullery, and a layer of concrete placed between the loose and partly rotten joists that lie anyway on the damp bottom that supports them. The floor of coal-hole under steps approaching to hall-door opened to examine front drain, which also smells. The writer believes that back and front drains are in connection, and that the sewage of one passes through the other, right under the kitchen and breakfast parlour to front area. He is gravely informed by those who are supposed to know better, that both drains are distinct, that one runs "this way and the other that." Smell towards the evening of this day not so bad. Chloride of lime placed in saucers in breakfast parlour, kitchen, and other places. A large rat makes his appearance in the kitchen cupboard. Servant, fresh from the country, hurries to inform the only gentleman in the house. The writer leaves down his pen, seizes the poker, and hurries to the kitchen; but the rat has dived, ere he is reached, under the hearthstone. N.B.—Rats must possess a wonderful power of contraction or elongation. The rat in this instance was nearly full grown, yet the hole he passed down was about the circumference of a wine cork.

May 24th.—Smell not yet abated; worse in breakfast parlour (front) than in kitchen. Portion of boarding raised off kitchen floor; could drive down handle of sweeping-brush some feet deep in the loose matter under the joists; proofs of what writer expected. When building between the walls, front and back, the ground had been dug out to the depth of several feet, for the sand, and then filled in with any loose rubbish. Numerous holes were discovered here and there under the joists—in fact, a regular rat burrow existed, with chambers one leading into another in the soft material underneath. Trapped the drain by adding a glazed crank to the closet pipe at its extremity.

May 25th.—"Sunday at Home," at least in the morning; but a Sunday abroad after breakfast in our case was more pleasant. Smell considerably abated, but, like the scent of the roses which clings to the vase in which they have been distilled, the odour of the sewer gases, so long escaping, clings around our breakfast parlour. Cond's fluid, which has been lying about for the last week, has a thick, sulphurous-looking coating upon its surface. Everybody in the house gets an "outing" to-day, for a few hours at least, to bleach the mustiness of the last week from their clothes. The writer takes a long walk into the country, and is not long in the house after his return at nightfall when he is called for the second time to despatch a rat. This time he is more successful, the servant girl having had the presence of mind to stop the hole in the cupboard corner with a piece of paper. Master Rat was driven to bay; the poker met him on the neck, and measured the length of his grave. Sunday evening closed with one less living nuisance in the house.

May 26th.—Portion of breakfast parlour floor boarding raised, as a slight smell still continued. A rat in the last stages of decomposition discovered; it had been poisoned somehow or other, and no doubt for several days had added by its effluvia to the sickening smells. Several rat-holes discovered in the soft bottom, which will always exist as an evil. I suggested ventilators should be inserted in the walls, to allow the air to pass with freedom under the joists of breakfast parlour and kitchen floors. "Jack-of-all-trades" said he would remind his master the estate agent, but that worthy is probably of the opinion that "that confounded ladies' college has cost him more money for repairs than it brought him in rent." Well, all the writer knows is, that, after a careful examination, he is convinced that the house was "built to sell"; and that he is nearly certain



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that bad drains, bad smells, rats, constant repairs, and periodical attacks of illness will be the normal condition.

May 31st.—This is the last of the month, and the smell, which has been dying away since Monday, is completely at an end,—at least for a time. We are all well again—landlady, governesses, pupils, visitors, and the “blessed baby.” The rats are not all gone, but they are wonderfully silent. They must be living on small allowance since their chief holes were stopped up. The landlady has got a new cat from a neighbour, but it is disinclined to settle down in its new quarters. It disappeared for two days the morning after it came, and then returned in a starving condition, being unable to find its former home. This morning it has again disappeared. If the rats hear of it, there will be “High Life Below Stairs.”

#### DRAINAGE.

IN the House of Commons on the 18th ult., the O’Conor Don asked the Secretary to the Treasury as to the cause of the delay in issuing the provisional order for the formation of the Suck drainage district in Ireland, and whether it is not the fact that the requisite number of assents have been for some time sent in to the Board of Public Works in Dublin. Colonel Stanley said the provisional order for the formation of the Suck drainage district had been prepared for some time, for on the 13th inst. the number of assents requisite to form the necessary majority were obtained. An important legal question had, however, been raised, and the Board of Works were only yesterday in a position to complete the arrangements. An order would be issued forthwith.

The river Erne, which for some time past has been very high, has now, we learn, considerably subsided, and the meadows on its borders have again shewn their green surface.

#### GREEK AND ROMAN ART—

THEIR CONNEXION WITH THE TEACHING OF THE CLASSICS.\*

##### LECTURE V.

(Continued from page 53.)

BUT all that I have been saying about the comparative uselessness, to the large crowds that go there, of the many splendid treasures in the British Museum—all that I have been saying about the neglect that has befallen the collection of casts in the Crystal Palace, and that would be in danger of befalling any collection of casts that was not associated with special teaching—all that points in one direction, and it points to this, that the teaching of classical archæology, the study of the monuments of the Greeks and Romans, should be made a part of our general education. If we were shown when young the works of ancient art, we should be accustomed to their beauty and meaning, and should be able to go to the British Museum, or any museum that might be formed, and take all our lives an instructed delight in anything we found there. We must begin at the beginning; we must try and get the teaching of archæology, in forms however simple, introduced at schools and universities. Many of our great schools are rich enough to supply themselves with appliances of this kind. There are appliances of all degrees of elaboration and of all degrees of expensiveness. We could not expect a school to furnish itself with a great museum of casts, such as I have been describing, but it might well have a certain number—and some schools indeed have already begun to do so—of picked reproductions of this kind of the greatest works. But there are minor forms with which every school should thoroughly equip itself. For one thing, at any rate, in every school class-room and lecture-room that had to do with classics, there should be models of the principal classical sites. Do you suppose that if schoolboys had a model of the Forum at Rome before them, they would not be more interested in Cicero’s speeches which he made in that Forum? So all through the whole cycle of things. Models of sites, for schools, I should principally insist on, and photographs, but a certain number of casts if possible, and especially of portrait busts. When schoolboys are reading about Tiberius or Domitian,

do not you think it would make them more alive to the subject to see the lineaments of these people about whom they read. And those lineaments, as they come down to us from the Roman school of portrait art, are the most vivid and striking that any school has handed down to us.

For the wider range of ancient art we must trust chiefly for school purposes to photographs. Many beautiful photographs are to be had comparatively cheap. But then there is another form of art of which reproductions which might have extreme value to schools, namely, coins. By holding in your hand an electrotype reproduction of a Greek coin (and it is really almost as good as the original,) you realise so many things at once. You have read perhaps about Olympia, about it being a place in Elis where Jupiter was worshipped. You take up a coin of Elis, and you see the head of Jupiter copied on one side from the Greek type, and on the other side the head of the goddess Hera or Juno. Do not you suppose that realising the use of this coin would bring home to the boy things that had not been brought home to him before? Or when he was shown any Athenian coin with the face of the goddess Athena, or in one corner the figures of Harmodius and Aristogeiton, that he would not then remember more vividly and carry about with him all his life in a clearer way the idea of those famous tyrannicides? While the immediate first effect in schoolwork of these things is to impress upon the eye that which the teacher endeavours to impress upon the mind—the lessons which boys learn out of their books—it would have another effect. While the boy would realise that this was the actual coin in use in Greece—that the people in the marketplace went and made their bargains with this coin; that this was the half-crown of the period; he would at the same time be beginning to learn the secret of Greek beauty and of ancient art.

Then we come to the more advanced study of ancient art in the Universities. There I think we are bound to try and have appliances as complete and as elaborate as possible. The idea of a museum is that of a laboratory of the material appliances for learning, and somehow or another this idea seems only to have been an idea lately developed in English University arrangements. Our curriculum at the Universities used to be confined entirely to learning from books; but books, after all, are only one means of learning. Whether it was mathematics, history, or literature, books used to be considered the sole and sufficient appliances necessary. But within the last 50 years, since modern sciences have begun to be recognised, since it has been recognised that a large portion of the study of the human mind is the study of physical nature—since the natural sciences have come up as University studies—it has been recognised that books will not do so by themselves, that you must have chemical laboratories and scientific apparatus; and lately, the Chancellor of our own University has, with admirable generosity, built and furnished in an exemplary way, at his own expense, a complete physical laboratory at Cambridge. We classical students are beginning to see that we want the same kind of thing. We are quite ready to acknowledge that the natural sciences are worthy to take their part beside the old classical and literary and mathematical studies in the University. But there are forms of classical study for which we want our laboratories and our museums too, and I do not think it is at all unreasonable to suppose that we shall be presently heard, and get it recognised that to complete one of our old-established traditional studies, we want a properly-equipped museum, just as much as these new students in natural science want theirs. We want a comprehensive museum of ancient art such as they have in several German Universities. Of course, besides the museums, complete libraries of art are wanted, and original collections, so far as possible, of subordinate branches—of coins, vases, bronzes, and the like.

But when we speak of the study being complete, we must remember that even if we were to establish our museums, even if we were to modify our examinations accordingly, still there would remain a sense in which the study would not be complete. To make a finished archæologist, you must send him abroad. There are many ways in which this study of classical art is illuminated by a residence in a classical country, in which it cannot be possibly illuminated by a residence at home in a University, be that seat of learning ever so well equipped or endowed with all necessary appliances, be its museum ever so well organised. Germany, the great country of this study, has long ago recognised this, and France has also recognised it, for both the Germans and the French have institutions abroad for promoting the study of archæology. The first of these institutions is now approaching its fiftieth year, the famous Institute of Archæological Correspondence in Rome. That was first started as an amateur society, supported by subscriptions—a company or

society, including many foreign subscribers, which had its quarters in Rome, and brought out its yearly publications, records, and illustrations of discovery. That was founded in the year 1829, and this study has been going on in Rome with ever-increasing activity. The publications of the Institute are the great central magazine for modern researches, especially modern discoveries on the soil of Italy, in this line. Latterly, since the establishment of the German Empire, this Archæological Institution at Rome has been endowed and supported by the Imperial Government. When that was founded, Rome was obviously and necessarily the one centre, where such a foundation was possible. Ever since the Middle Ages, innumerable works of ancient art have been found in Rome, and many more are continually found there, and not only in Rome, but in a hundred out-lying places of Italy, and it is the great centre for traffic in such antiques. Besides, at that time, the native home of these things, Greece, was scarcely accessible, except with a military force. The French went and made certain excavations at the time when the country was seething with the war of the oppressed populations against Turkey. During this internecine barbarous war between the oppressors and the oppressed, the idea of establishing a scientific foundation in Greece was out of the question. But times have changed since then. A portion of the Greeks have now their liberty; Athens in its turn has become the city to which the eyes of all archæologists are turned, and similar institutions to the one at Rome have been established there. First of all the French took the lead in establishing the Ecole d’Athènes, a magnificently endowed institution, presided over for a long time by M. Burnouf, and now by M. Dumont. This is the place to which certain students who have won prizes in their school course in France are sent to complete their studies in this subject. It is a very remarkable thing that the French should have regarded it as a duty of the Government to send advanced scholars out to Athens, in order to have the immense benefits derived from a residence in that place, finishing their studies on the spot, yet that we should have done it neither by the Government, the Universities, nor by private enterprise, because France is not a country where people learn Greek, as a rule. The number of Hellenists is exceedingly small, even among scholars, in France, and for ten Englishmen who know Greek fairly well, to whom Greek means something all his life, I do not suppose there is one Frenchman. Still this branch of Greek study has been recognised, and there is even a flourishing establishment at Athens, to which persons who have a special vocation are sent and where they have an opportunity, and the infinite delight and indescribable advantage, of the completion of their classical studies by a residence there. The same thing has been done, more recently, by Germany. The German Institution at Rome is now approaching its fiftieth year; the German Institute at Athens is much younger. It dates since the establishment of the German Empire. Still, there have been a great number of private Germans continually there, where they have worked very laboriously; but the establishment of the German school is a new thing. These various institutions are so many nurseries for archæologists. Of that kind of institution we possess absolutely nothing. There is no organisation, Government or otherwise, which provides for sending our students who may have that particular vocation, to follow it out, and to learn what only can be learned upon the soil of Greece.

It is a little difficult in proposing anything of the kind in England, to be sure what is the best practical way of proposing it. It is not energy that we want, it is not perhaps desire for these things, but it is organisation; that is, the concentration of energies. There are several bodies, such as the Dilettante Society, or the Society of Antiquaries, within whose scope one might say this kind of thing would come; and there is Government; but then Government has not, as a rule in England, taken upon itself the task which Governments do abroad, of providing for the higher education. And there are the Universities, but when we come to look at the funds of the Universities, even when we propose to reform and redistribute their funds, and look at what we can afford, we see there are so many subjects wanting more money and new appliances, that the question arises, can we or can we not afford to establish an institution corresponding to the Government institutions of Germany and France. These are the kind of difficulties that meet one when one comes to consider practically an object of this kind. I do not know that I am here prepared to make any positive suggestion on the point, but I am prepared to say that it is an opprobrium and a discredit to our country that we, who have so ancient and honorable traditions of devotion to the study of the literature and languages of ancient Greece and Rome, should have no organisation whatever, no encouragement, no means for sending out students

\* Cantor Lecture. By Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge.

to Greece or Rome, and for enabling them to continue their studies in Greek and Roman antiquities, in the places where alone perfection is possible to be attained.

(To be continued.)

### ADVERSARIA HIBERNICA, LITERARY AND TECHNICAL.

"**GREAT** cry and little wool" is a very expressive and truthful maxim, and its application is almost general. The cry for technical education in the interest of the working classes has as yet resulted in little wool, though we have no doubt, in the course of a generation or two, some good results will be apparent if the cry is persisted in, and if workmen themselves give it a practical embodiment by informing their minds of the origin and properties of the materials they work upon and use.

To building workmen especially we would address ourselves, and impress upon them the necessity that exists in these days for not only knowing how to work at their respective trades, but for knowing the principles. Their insight and knowledge should not, of course, stop here. Nature supplies raw building materials, but art and handicraft working in connection with science effect further changes, and prepare them for use for various purposes.

A piece of building stone, whether it be a granite, a limestone, or a sandstone, it is still a building stone and no more to the majority of our workmen. It is the science of geology that tells us its origin and formation, and it is chemistry or chemical analysis that unfolds its properties. But, apart from chemistry, common observation in many instances and microscopical inspection in others will inform us the name and nature of many stones, whether it be in the form of a pebble, or a rock, or boulder. Some rudimentary knowledge, however, of geology is indispensable as a beginning, for though a few stones may be identified by building workmen from sight and a practical experience of their use, a large number will always remain unknown to them, without some knowledge of geology. The architect or builder, who is to some extent a practical geologist, possesses valuable information which can be turned, according as circumstances favour, to most useful account.

We do not expect that all our building workmen should become clever geologists, but we do say that with a little trouble all young and intelligent workmen could obtain a fair knowledge of geology, and by so doing they would probably pave the way to a better position in after life, when they would become large builders and contractors.—an uprise always possible to a number of steady and industrious workmen.

Now let us ask the stonemason a question. What is granite? Without entering into a discussion about the origin of the name, we will cite one of our latest writers, Professor Hull, Director of the Geological Survey of Ireland. In his work on "Building and Ornamental Stones" he describes granite as a rock of crystalline granular texture—of igneous or metamorphic origin—and composed of at least three constituents—quartz, felspar, and mica. Several of the old last-century and present century public buildings in Dublin are constructed with County Dublin and County Wicklow granites—some with a good and durable granite, and others with granite of inferior quality. How many stonemasons are there in Dublin who could at first sight point out in the different granite-faced buildings in this city the localities of their respective stones? We fear that there are not many builders or even architects who could tell which is the granite from Killiney Hill and which from Blessington; how many buildings show the granite of Ballyknockin, County Wicklow, and of Kilgobbin, County Dublin. Granites are pretty widely distributed over Ireland, and several specimens widely differ in colour, components, and texture.

To disarm censure and useless criticism, let us say we do not put ourselves forward as geological teachers and instructors. Our object in writing is to induce the young building workman of our day to take up the study of geology and building materials to some extent, knowing that such study will not only prove interesting in his youth, but useful and most likely valuable to him in his manhood and his later years.

The stonemason that hews a stone or sets it, and the bricklayer that cuts a brick and lays it, performs a very ordinary though useful operation. The knowledge of the properties of a stone, and of shaping it so that it may lie in the building on the exact bed it lay in the quarry, is still more valuable to the mason. To the bricklayer also the knowledge of the properties of brick clays, the making and proper burning of a brick, is information which will render him a more useful man to himself and to a conscientious employer. Elementary education, then, is the ground-work or basis, but the true and solid edifice rises alone through technical knowledge, and what we preach has its application alike to a man or a building.

A pamphlet was published in Dublin about 1793 on the subject of "Orphan Houses," in a series of letters addressed to Mrs. Peter La Touche. The writer of the letters, under the cognomen of "Melantius," gives an account of a tour he made through Holland and parts of England in visiting a number of different kinds of orphanages and hospitals, and some of his notes respecting Amsterdam, Flushing, Middleburgh, Rotterdam, The Hague, Leyden, Haarlem, and in Surrey and Ipswich in England, are interesting. The Girls' and Boys' Orphan Houses in Prussia-street, Dublin, at the period of these letters, had only been lately founded—the former in 1791 and the latter in 1793. The La Touches took great interest in the establishment of the Dublin Orphanages, Mrs. Peter La Touche being the treasurer of the charity. In his opening letter, "Melantius" thus addresses Mrs. Peter La Touche:—"Admirable Lady! A tour, undertaken under melancholy circumstances during the last spring, having led me into many parts of England, Flanders, Dutch Brabant, Zealand, and Holland, where I had an opportunity of examining several houses for the reception of orphan children, I now sit down to give you the result of my observations upon that subject, not without hope, that I may have been fortunate enough to collect some hints, which may appear worthy of attention to you and the other guardians of your excellent institution: an institution which has been too long delayed."

The writer, in the course of his first letter, speaks of an "excellent practice which he observed at Sluys, in Dutch Brabant. About the hour of noon on every Sunday, a respectable citizen visits each house in town, carrying a velvet bag for the reception of alms. The Dutch, it must be observed, give public alms at divine service, as is the custom in Ireland, because there is no legal provision in either country for the poor [not then]. But it seems to be very wisely ordered by our Dutch neighbours, that if any person is too lazy, or too inattentive to his religious duty, to appear at church on the Sunday, his neglect shall not exempt him from a personal application for his weekly quota to the needy."

What he saw at Sluys the writer says he found afterwards to be customary in every town in Zealand and Holland. He thinks there is equal if not greater need of adopting a similar practice in Ireland, where the wetness of the seasons, the situation, and too often the squalid and ruinous condition of the parish church, furnish perpetual excuses to the indolent for keeping out of the way of being asked for that mite which they could hardly refuse at their own doors. He says in a foot-note to this letter:—"The church of Wicklow, for example, stands upon a high hill, admirable for prospect, but most spitefully for the discharge of what is owing to God and the poor. The old and infirm can-

not get up the hill; the delicate, who dread the least sprinkling of rain, will not: so that, with many, to absent themselves from the house of God whenever the sky lowers, is, in this town, become a sort of family habit." This family habit is, we fear, widespread in Ireland and other portions of the British Islands at present, and the habit gives rise to the very frequent utterance of the proverb, "The nearer the church the farther from God."

How would the public entertainers of the present day like to be mulcted as their brethren were in Holland?—"A third branch of the charitable revenue in Holland," writes Melantius, "is a tax of one-third their clear profit, imposed on all persons employed in entertaining the public, even down to the rope-dancer and the puppet showman, who are thus compelled to be useful to the state, by helping to maintain poor orphans of both sexes, together with the aged and infirm." If there were no poor laws in force in these times, the infirm and the orphan might be supported, not like the system adopted in Holland, by taxing the poor street tumblers and puppet showmen, but by taxing the rich and rapacious usurers, bill discounters, stock-jobbers, and directors of public companies. Men and companies who make hundreds and thousands of pounds in a few hours by a species of gambling not representing *bona fide* industry—these are the sort of men that should be taxed for the support of the aged poor and education and training of orphans. Unfortunately now our poor laws are in many points unjust. For the most part it is the struggling poor who have to support the poor.

*Apropos.* We would like to quote here and there from the letters alluded to in the above note, but we have not space for long details. There is a "Mem," however, attached to "Melantius" third letter which we will give.—"I have not seen a single intoxicated person in Brabant, Zealand, or Holland; not even in Rotterdam, [we fear if he were there to-day he would see many,] where distillers abound. Unhappy Ireland! whiskey and potatoes are thy bane!—the last by encouraging laziness, tends as much to brutify the peasantry as the first. No person whose desires are bounded by potatoes and a dram, will ever feel an incitement to industrious exertion for a longer space than a few days in the year. Persons of observation, whose memories carry them back beyond a half century, have assured me that before that period, neither drams nor potatoes were in universal use in Ireland; whiskey was not known, and depravity of manners has visibly and regularly kept pace with the diffusion of these national poisons among the lower order of the people. It should seem that nothing but a new race, brought up to industry, can rectify the blood and restore an honest yeomanry. Hence arises my earnest desire of training orphans. Fifty thousand persons, educated as they are, in the weese-houses of the Dutch Commonwealth (and it is computed their number is very little short of that amount,) would bring about such a reformation in Ireland, that our people of fortune would no longer have to offer, in defence of their living in England, the excuse of the extreme difference of the manners of the common people."

In the Dutch orphan houses, the youth were brought up to habits of industry, and taught to do plain work in a variety of forms; but in the last century in Holland, no more than in the British orphanages, were there any regular organisation of labour or skilled trades, and in some of the orphanages the boys and girls were retained up to an age when their apprenticeships to trades outside might have terminated, had they been apprenticed. We read of orphan houses at Flushing, in Middleburgh, containing about two hundred females and over one hundred males, and of orphans being received at the age of five, and kept until they were five-and-twenty. Keeping females or males in orphanages till the age of twenty-five, was

certainly a strange and absurd mode of keeping and training girls and boys—training them for matrimony. In modern orphanages, boys and girls are apprenticed out to trades or industrial employments, at a suitable age.

About the evils of drams and potatoes alluded to by "Melantius" much could be written. Whiskey has had many curses heaped upon its head, but the potato, after all, has been more sinned against than sinning in Ireland. Long before the time mentioned by the writer quoted, whiskey or usquebaugh drinking existed to a large extent in this country, and potatoes were cultivated and eaten. Early in the present century, Cobbett railed from a Dublin balcony against the "accursed potato," but the Famie of 1845-7 showed that the despised root was as much valued and relished by the rich as by the poor or "common people," who were deprived of their principal support. It is a bad thing to halo till one is out of the wood, and the potato should not be cursed until a better substitute could be found. Low wages, want of education, absence of sufficient trades and manufactures in the country, and an imperfect system of agricultural farming, led to a great dependance upon the potato in the past. H.

### THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy was held at their house on Mouday evening.

Sir ROBERT KANE, Bart., President, occupied the chair.

L. Studdert, LL.D., read a paper giving the results of a chemical examination of the mixed waters of the estuary of the River Liffey, with some remarks on the discharge of sewage into estuaries. Dr. Studdert said that the object of this examination was to ascertain the proportional intermixture and comparative states of the surface and deep waters in the Liffey estuary, at different states of the tide. Specimens of these mixed waters were collected in May, June, and July, 1876, from the inch surface and several depths down to 15½ feet, in five cross sections of the river, at centre and quays, from King's Bridge to Ringsend; and, besides, at some points intermediate, in ebb and flow tide, during wet and dry weather, in the afternoon and evening. These samples were examined soon afterwards in the Royal College of Science Laboratory, under the inspection of Professor Galloway, to determine the ammonia yielded by the sewage, and the chlorine yielded by the sea water present in the measure taken. It appears, from Wanklyn and Chapman's indicator, that ten times the albuminoid ammonia obtained would represent the quantity of animal refuse in the mixture. [Dr. Studdert's paper was accompanied with a plan of the sections and intermediates, also three tables of chemical results.] It was found that from surface to bottom the sewage matter decreases, while the sea water increases in a given measure of the waters. A large proportion of the sewage discharged into the Liffey appears, at flood tide and in dry weather, to be contained in the first inch of surface, which, under the summer sun, would account for the noxious vapours emitted. Much of this superincumbent sewage was found forced up by waves or wind, as far as 250 yards beyond the King's Bridge and above any city outfall. The like foul deposit is reported to be thrown up stream from the mouth of the intercepting sewer constructed in the Thames below London.

Dr. Frazer, in moving that the paper be referred to council for publication, said they should feel obliged to Dr. Studdert. He had shown not only what was pretty well known about the Liffey, that the salt water generally made its way up under the fresh water, but he had shown its effect on sewage. Dr. Frazer believed the whole question of the drainage of the city would require great supervision and great change. He had, no doubt, a great deal of the mortality that was

startling them was due to defective sewerage. There was carried into the city every day an unknown quantity of water—he had been unable to obtain any information as to the precise quantity—they might say two millions of gallons. That water was carefully conducted into the city, and none of it wasted until it reached the lanes and alleys, and then a great part of it was spilled about, leaving the city in a moist, damp state, undermining the limestone soil underneath the houses, and adding materially to their unhealthiness. He believed the question of main drainage was a trifling one in comparison with the question of secondary drains from the lanes and alleys, and that until those drains were made to remove the waste water as carefully as the pipes at present distributed it, the health of the city must be seriously affected.

Mr. Orpin seconded the motion, which was agreed to.

Dr. Frazer read a paper on a copy of the *Life of the Virgin*, by Albert Dürer, which he claimed to be a unique one. He supposed it to be a special proof copy given by Dürer to a friend. Dr. Frazer exhibited the book.

The paper was referred to council for publication.

Mr. E. T. Hardman, F.C.S., read "Further Remarks on the Supposed Substitution of Zinc for Magnesium in Minerals." Mr. H. W. Mackintosh, A.B., presented part of a report "On the Acanthology of the Desmoticia."

Dr. Ball, secretary, called attention to the special meeting of the Committee of Science, for the purpose of considering the allocation of the Parliamentary grant for scientific reports, to be held on Thursday.

The Academy then adjourned.

### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

THE rope-dancing performers engaged by Mossop proved neither profitable nor attractive, though we read that Le Nemora, Semanzati, and Signiora Rossoli were excellent in their line. Their first night brought in only £39. While many appeared to feel disgusted with such performances, we believe there were a good many more who secretly liked them, though they cared not publicly to express their opinion. Long-continued rivalries between Dublin managers had exhausted most forms of attraction, and even the legitimate drama failed to bring a continuation of good houses, two or more theatres betimes requiring to be filled while the city was unable to support more than one. Hence, dogs and monkeys, acrobats and tight-rope dancers, were availed of to create a novelty. The expedients resorted to by Barry and Mossop have, however, been resorted to again and again not only in Dublin, but in London and other cities, and tight-rope dancing, tumbling, and legerdemain have been witnessed on the boards of British theatres of late years, as well as in circuses and music or concert halls. We need a truly *National Theatre*, where the best plays will be continuously acted—original and select tragedy and comedy, from those of Shakespeare down to Goldsmith and Sheridan. We will not again stop to discuss how this National Theatre might be made a success, there being more than one method which could be adopted. There are, we fear, few proprietors or managers of theatres in these times who care to produce plays, however good they may be, if they are not likely to pay; and perhaps as the world and self-interest move, our present-day managers are not to be too sharply censured. "Shakespeare spells ruin," said a popular playwright and actor not long since, and the words have been echoed and re-echoed over and over again. The public taste at present is to a great extent vitiated, and scenes and

situations, and grotesque displays, compounded of the animal, vegetable, and mineral kingdoms, are served up as attractive dishes for the public taste. Early eighteenth-century obscenity in words, followed by indecency in action, is not now beheld on the boards of our public theatres; but vile tastes are still paudered to here and there, and the corrupt flesh swells and throws out its hues under thinly-disguised veillings and tight fittings. But enough for the present.

Many extracts might be given from the pages of contemporary writers illustrative of the position of the two Dublin theatres during the rivalry of Barry and Mossop, and even at the period when Mossop for awhile became master of both houses. Tate Wilkinson, in his "Memoirs of his own Life," gives us the following picture in relation to Mossop and Smock-alley, showing that, even when success cheered the manager, he was careless of husbanding his resources and paying off his liabilities:—"Instead of paying either his tradesmen or his performers, he flew to the gay circle, where he was gladly admitted, and in order to mend his broken fortune by the chance of a die, or the turn of a cord, of which I believe he was ignorant, and unacquainted with the necessary arts to succeed. He has often left the theatre with a hundred guineas in his pocket, and returned home with an aching head and heart; but his guineas with his debts of honour were all left behind. The Countess of Brandon served him greatly, it is true, but often the money she occasioned being paid at the theatre returned to her own coffers. This was the universal opinion of Dublin, and is all I can allege in that case as to its authenticity."

John O'Keefe, the Irish dramatist, in his racy and rollicking "Recollections," writes: "At a period when payments were not very ready at the Smock-alley treasury, one night Mossop, in 'Lear,' was supported in the arms of an actor who played 'Kent,' and who whispered him—'If you don't give me your honour, sir, that you'll pay me my arrears this night before I go home, I'll let you drop about the boards.' Mossop, alarmed, said 'Don't talk to me now.' 'I will,' said Kent, 'I will let you drop.' Mossop was obliged to give the promise, and the actor thus got his money, though a few others went home without theirs."

Although the Countess of Brandon is reported to have helped Mossop a good deal during his contest with Barry, still the patronage of her ladyship was not always successful in bringing good houses at Smock-alley, though her aim was to make it the resort of the rank and fashion of the time.

The following amusing anecdote is given in illustration of the state of Smock-alley on one occasion:—"About the year 1766, early in May, two favourite performers united in a second benefit as compensation for arrears of salary. Dr. Fleury, a friend of both, took places, and at the usual time sent his servant to keep them. At seven o'clock he went with two ladies to the house, but, to his great surprise, found the servant on the outside, playing ball. The doors had not been opened; however, they soon got in, and when the curtain drew up only one lady—the Countess of Brandon—appeared in the boxes. The band consisted of one solitary fiddler, and a minuet in Abel's first overture, strummed over and over, was the sum of his performance. Her ladyship, finding her situation rather awkward, joined the doctor's party in the lattices. The play was 'The Fatal Curiosity.' The manager himself, with the strength of a respectable company, acted in it; yet the receipts fell short by five pounds."

In the winter of 1768-9, Mr. and Mrs. Walker returned to Dublin after being for some years at Covent-garden. At Crow-street they proved an acquisition, as Walker possessed merit in the character of tyrants, and his wife in that of chambermaids. Miss Grosse, afterwards known as Mrs. Barre, made her first appearance in Lady Townly, for which she was unfitted; her second appearance in Rosetta gained her a footing,

\* See ante.

as she was received with favour. She is reported to have had "a strong, clear, commanding voice, and afterwards proved a useful member of the dramatic society." The comic opera of the "Padlock," brought out in January, 1769, did not at first prove successful, although other musical pieces had previously been well received. However, the "Padlock" afterwards gained favour, and in several subsequent years proved an attractive piece. The "Padlock" was ushered in with every advantage after Mossop's *Hamlet*, yet on the first night it brought in only £80, and on the second performance the house only yielded £51. On the third representation the receipts fell to £41, and when brought forward on subsequent occasions it had to be tailed to the strong tragedies of the manager. Hitchcock, who as a deputy-manager some years afterwards at Crow-street, had an opportunity of knowing the merits of the piece and the way it was put forward, writes thus of the "Padlock":—"Yet, notwithstanding this, it is certain that there is not a more pleasing musical afterpiece in the English language, or one possessed of more merit, either in character, incident, or musical composition. Indeed it is the only instance I ever knew or heard of its failing. Few pieces, I believe, were ever oftener repeated, drew more money, or gained more applause. According to this authority the original cast of it in Dublin was as follows:—Leander, Bannister (from Drury-lane); Mungo, Wilder; Don Diego, Vernel; Ursula, Mrs. Saunders; Leonora, Mrs. Hudson."

In March, 1769, the fashionable Catley again visited Dublin, bringing crowded houses, as usual, to hear her singing and to see her in her favourite characters, particularly *Comus*, which appears at that time to have been a leading piece. "Her *Euphrosine* in the piece named," says an authority already quoted, "will be long remembered, as it ought to be recorded amongst the excellencies of dramatic performances." The same writer adds that her playing of *Leonora* in the "Padlock," first gave it a reputation which it long afterwards maintained.

Towards the latter end of the season, Mossop brought out the comedy of "The School for Rakes," by Mrs. Griffith, a native authoress of note in her day. Previous to its production in Dublin it was performed with *clat* at Drury-lane Theatre. It proved acceptable to the Dublin audience, and was several times repeated. The season closed in June, 1769, and proved a profitable one. Immediately after, Mossop visited Cork for the first time, and the playgoing citizens, who had long heard of his reputation in Dublin, gave him a most favourable reception. He brought a number of great houses in Cork, returning to Dublin in the latter end of September to prepare for the ensuing winter season.

Mossop little dreamed that a formidable opposition would confront him in a few months, and, though weak and insignificant in his eyes when he did behold it for the first time, would prove anon like the rolling snowball, gathering weight and size as it moved. How uncertain is theatrical success, or indeed any success! and what pranks do whirligig fortune play in tumbling down gigantic boulders, or piling up molehills till they become mountains. The tide of theatrical favour is a difficult one to stem; fashion is fickle, and public applause is oft a hollow sound. Who has ever yet pleased everyone, still less that section of the community, termed by courtesy the public—the playgoing public, if you will? The surest road for the actor or manager to tread is to act well his part, personally and theatrically. Keeping out of debt is keeping out of a hundred dangers. Barry fell, as many fell before him, by excesses that could easily have been avoided; but warnings came in vain for the heedless, and Mossop was fated to fall in a similar manner. The story of the Irish stage, we repeat again, is a sad, though withal a bright one,—an interweaving of much glory, with many sorrows, bright names, buried hopes, and baffled aspirations.

### THE RESTING PLACE OF CLEOPATRA'S NEEDLE.

ON Tuesday evening, the 19th ult., in the "African Section" of the Society of Arts, London, a paper was read by Mr. B. H. Cooper, B.A., "On Egyptian Obelisks and their relation to Chronology and Art." The chairman (Sir Erasmus Ommaney, C.B.) in his opening remarks said:—

In consideration of the deep interest which we must all feel on the occasion of the safe arrival of the Egyptian obelisk, commonly styled Cleopatra's Needle, within the area of this metropolis, the council of this society deem it fitting to celebrate this event by affording the members an opportunity of receiving a description of these remarkable historical monuments of ancient days. This obelisk, now lying enclosed within an iron cylinder floating on the waters of Father Thames, was quarried 3,400 years ago out of the bed of granite contiguous to the first cataract of the Nile at Assouan, 750 miles south of Cairo; so that to reach this country it has travelled by river and ocean 3,000 miles, and escaped many perils by sea and land. Let us, in this Society of Arts, convey our tribute of gratitude to Professor Erasmus Wilson for his generosity for providing the means of bringing to them this memorable record of antiquity, and to Mr. John Dixon, who has by his skill, ingenuity, and enterprise, provided such a suitable vessel for its transport. What associations may be suggested to anyone looking down from Westminster Bridge on the vessel containing this mysterious monument of a nation which, forty centuries past, was advanced in a very high standard of art and science, whose gigantic temples and tombs are a lasting marvel to the present day, and whose symbolic language has been a closed letter up to very recent times.

The discussion which followed the very interesting paper by Mr. Cooper was opened by Mr. John Dixon in the following terms:—

It would certainly be wrong to allow such monuments to go to decay, as it was impossible to say what they might not do for history. However, they knew sufficient of their value to justify the successful attempt to preserve one of the best of them, the most ancient and interesting, perhaps, of all, by bringing it to this country. They were at any rate great historical land-marks dating back over 35 troubled centuries, and connected with the names of some of the principal sovereigns and figures of past ages. With regard to the vessel in which the obelisk had been brought to this country, so many had probably visited, seen pictures and heard all about her, that but little explanation of the model before them would be necessary. It had done its work, which was the most that any construction could do, small and comparatively insignificant as it appeared, and those who had built her had, no doubt, carried out the wishes of Dr. Erasmus Wilson, and had answered the poet's invocation—

"Build me straight, O worthy master,  
Staunch and stout, a goodly vessel,  
That shall laugh at all disaster,  
And with waves and whirlwinds wrestle."

The model of the obelisk itself had been prepared by his brother, and was as accurate as it could be made. It represented as nearly as possible the hieroglyphies and the battered condition of the stone which, it must be remembered, had not been cut by a sculptor in very recent days, and those who thought to find the obelisk a polished surface and well-cut inscription, need not go to Cleopatra's Needle itself, but had better perhaps go to Bethnal-green, for instance, where they would see such things in abundance. The second model had been prepared to argue the point of site with the Metropolitan Board of Works, and it had succeeded in effecting the object intended, though as was known, they had failed in obtaining what most people consider the most eligible site, viz., in the

centre of St. Stephen's-green. They had in fact failed, and always would fail in procuring a site which would be satisfactory to everybody, and no doubt they had failed in Westminster for not improper reasons urged by the Metropolitan District Railway Company. The hoped-for site at the back of the Horse Guards, they had also been obliged to abandon, on account of questions as to the future position of the new Government buildings, and Admiralty, and War offices, which rendered it uncertain what the future shape and position of the Horse Guards' parade ground would be. Next to those the present proposed site appeared to offer the greatest advantages, and to be most appropriate, as it possessed a great mass of granite work, and was a thoroughfare which, in a few years, would be one of the busiest in the metropolis. Probably fewer objections had been made to the site of the Adelphi-steps than to any that had been proposed. The Metropolitan Board of Works would, no doubt, decide to add the sphinxes, and to reduce the two large and clumsy pedestals standing there. He believed the whole plan was practically settled, and the work would probably be commenced in the course of a week or ten days, of moving the obelisk into its place. The next model had been prepared some time ago, with the view of illustrating what was then thought would be the simplest and best plan of erecting the Needle; but they had got wiser as they had grown older, and had made some improvements which would probably modify that plan of erection. The stone would be taken in the ship and laid alongside the embankment on a stage of timber, and ship and all would be gradually raised and rolled into place. Then the ship would be cut to pieces, and the obelisk gradually lifted into a horizontal position. An iron jacket would be placed round the middle of it, resembling the trunion of a cannon, by which it would be suspended, then swung down into a perpendicular position by means of a small hydraulic ram, and then, by letting the water out, the stone would be lowered a few inches and left standing firmly on its pedestal.

### SOME POINTS IN THE LAW RELATING TO THE ARBITRATION RULES OF BENEFIT BUILDING SOCIETIES.\*

THE first Building Society was established in this country in the year 1809, and therefore these associations are mainly a growth of the present century. Every year since that date they have been increasing in numbers and importance, and there is probably now not a town in this country, more than a village in size, which does not possess one or more of these societies. It is of the utmost importance, therefore, that the development of the law in regard to them should be carefully chronicled, for it is by legal decisions that the acts relating to them have been interpreted and points of any doubt made clear. The Building Societies Act of 1874 (37 and 38 Vict., cap. 41) put into a new and compendious form a great part of the law regarding these associations, but whilst it thus, in some respects, forms a new starting-point in the history of Building Societies, the large majority of cases which were decided upon the previous acts, namely, 10 Geo. IV., cap. 56, and 6 and 7 Will. IV., cap. 32, are either directly or indirectly in force. But there is a little fact connected with the most recent act which is worthy of notice here, even if only to show the haphazard fashion in which a great deal of the legislative work of this country is performed. In 1875 a second new and small Building Societies Act was passed. And for what purpose? Because the words of section 8 of the principal act, whereby existing societies not having a certificate of incorporation were deemed to be societies under the

\* From the Builder.

Building Societies Act of 1874, "were inserted through inadvertence." Such a clear and culpable slip shows how exceedingly carefully all those who have to do with legislative measures should watch their progress through the legislature, otherwise clauses will be inserted, and may become law "through inadvertence." We propose to return from this slight digression, to point out now the results of certain recent decisions upon the question of arbitration in disputes which may arise between Building Societies and their members, and even if the recent cases, to some extent, reiterate well-known principles, these can never be too firmly grasped by all whom they may concern.

The point upon which we wish to touch is a decision of the Master of the Rolls, delivered in the course of last year, in the case "*Wright v. The Monarch Benefit Building Society*" (46 *Law Journal Reports*, Chancery, p. 649), a case which one feels astonished should have come before a judicial tribunal at all, so plain does it appear, but which will no doubt be of service in preventing further attempts by members to break through rules to which they have subscribed. Mr. Wright was a member of, and a shareholder in, the above society, and had conveyed to it certain property, by way of mortgage, in order to secure the repayment of various sums lent to him by the society. He had subsequently sold this property, and averred that in order to complete the sale he had been compelled to pay certain sums to the society which were not due: accordingly he came before the Master of the Rolls to obtain an account from the society, and payment to him of any sum that might be due. But it was proved that all disputes were, according to the rules, to be settled by arbitration, and section 21 of the act distinctly states that "The rules of a society shall be binding on the several members and officers of the society, and on all persons claiming on account of a member or under the rules, all of whom shall be deemed and taken to have full notice thereof." And it will be observed from the words which we have placed in italics, that even if a member does not actually know the contents of the rules of a society to which he belongs, he is presumed to be aware of them, and therefore it is of the utmost moment that persons should be cautious in their dealings with societies. For it need hardly be said that in this case the judge, in the most emphatic manner, held that Mr. Wright was bound by the rules of the society of which he was a member. He may, as regards the accounts, have been thoroughly in the right, but it is evident that makes it all the more necessary to avoid hasty dealings with societies; for where the rules say that disputes are to be referred to arbitrators, to arbitrators they must go, and no court of law has any jurisdiction in the matter. In this instance we have witnessed a member in the wrong. In the case to which we next turn as an illustration will be noticed a warning to the society as such in the manner of carrying on its business. This decision was one of the Court of Common Pleas in 1875—*Prentice v. London and others* (44 *Law Journal Reports*, Common Pleas, p. 353), given, as will be observed, after the act of 1874 was passed, but this society was registered under the previous act, which contains very similar provisions as to arbitration. The plaintiff was the transferee of certain shares in the society, the defendants being the trustees of the Albion Mutual Benefit Building Society. The transferor had parted with the shares to Mr. Prentice, but the society, in consequence of the misconduct of the former holder, considered that they were forfeited. When, however, Mr. Prentice brings an action to recover their value, the society plead that the matter ought to be referred to arbitration. But the principle which we mentioned in the previous portion of our remarks, that disputes, when the rules said they were to be referred to an arbitrator, must be so referred, is limited by the fact that the disputes must arise between members *as members*, or between the society and a member *as a member*,

and that the subject matter of the dispute should relate to the affairs of the society. Now, it must be obvious that the question whether a man is or is not legally a member of the society does not fall within the limitation. It is, in fact, a question as to his admittance to the position which, when it is attained, will then, as one of its elements, oblige him to submit disputes to arbitration. The rule upon which the decision in the present case turned was materially as follows:—"Should any dispute arise respecting the construction of these rules, . . . such dispute shall be referred to arbitration." But in addition to the singular contradiction in the defendants' case, namely, that in one portion of it they denied the membership of the plaintiff, and in another asserted that he was bound to refer his dispute as a member to arbitration, the question, as Mr. Justice Brett observed, was "whether Mr. Prentice was lawfully a member, therefore the statute and rules as to arbitration do not apply." Thus we have here at once an instance of the extent to which the arbitration question is carried, and its proper limits, and also a clear misunderstanding by the directors of the laws and rules governing a building society, with which they, of all persons, should have been thoroughly and accurately acquainted. Other cases might be referred to to make this example even more clear; but we purpose only to take one, in order to point out an instance of the working of the exception that, not only must the disputes be between the members of the society and the society in order to be referred to an arbitrator, but that the subject matter in dispute must relate to the affairs of the society. This was the case of *Morrison v. Glover*, decided by the Court of Exchequer in 1849, but which is still regarded as a leading case on this subject. There the defendant had mortgaged leasehold land to the plaintiff and others, who were the trustees of a building society, and had covenanted to pay the ground-rent to Lord Cadogan. This he failed to do, and the trustees accordingly brought an action against him for breach of covenant, which the court decided they could do, and that the rules as to arbitration were not applicable, since the dispute arose between these persons, not as members of the society, but simply as mortgagor and mortgagee; for it will be observed that the reason for the decision was that the matter did not touch upon the positions occupied by those persons as members of a society,—in other words, it was an independent transaction. At the same time, we are inclined to think that, with the somewhat wider views of the judges of to-day, it would very likely be that in a similar case, except for the fact of the precedent, such a dispute would have been considered sufficiently a matter relating to the society, so as to enable the arbitration rules to take effect; for a very wide distinction seems to us apparent between this illustration and that last given, in which it was purely a question of the right to membership. At the same time, the principle of the case of *Morrison v. Glover* was expressly and by name affirmed in the case of *Prentice v. London*, and therefore, whether the application be good or bad, the principle is certainly sound, and a portion of the existing law, and as such must be borne in mind by those who are concerned with building societies. If this general principle as to arbitration, with the limitation which we have pointed out, be properly understood by those, on the one hand, who are simply members, and those, on the other, who have the direction of these societies, their usefulness will be increased, and much vexation and loss of money will be avoided.

#### NEW CONVENT CHAPEL, BANTRY.

THE ceremony of laying the first quoin of above building took place on the 18th ult. The design is by Mr. S. F. Hynes, Cork, and the contractor is Mr. Denis Murphy, Bantry. With our number for August 15th, 1877, we gave an interior view of the chapel.

#### RISE OF WAGES IN THE BUILDING TRADES.

On the 4th ult. Mr. T. Brassey, M.P., read a paper before the Royal Institute of British Architects on the, at present, all-important topic of wages to workmen in the building trades, and which is well worthy of serious attention. In the discussion which took place at the ensuing fortnightly meeting, at the rooms of the institute, Mr. George Howell, as representing the working men, was called on to open the debate:—

Mr. Howell said with regard to piece-work, and the alleged want of earnestness exhibited by the men in their work, it would not be necessary to enter into a long argument with members of the institute with respect to piece-work. The architects of London knew too well that in building operations it was almost impossible to apply the principle of piece-work throughout the building. There were certain departments in which it could be applied, certainly, but he would ask any architect, who knew anything of his business, whether it was possible to apply the principle of piece-work with regard to brickwork; he was now speaking more particularly with respect to large buildings. For a number of men to combine together and work, and then to divide the profits among themselves, according to the portions they had severally executed, was next to impossible in the building trade. To a certain extent, it might be applied. The principle of piece-work, he (the speaker) contended, could only be applied where a man could bring his own energies to bear upon the work, or a particular portion of the work, and complete this by himself. He was then responsible to himself for the amount of work done, and to the master for the way in which it was done. A tailor could do this; a shoemaker could work in this manner; and in some portions of the building trade, also, it could be done. Many of the alleged difficulties, so far as he had been able to understand them—and he had had some experience—had been referable simply to the obstacles in the way of applying the principle throughout the building. As to the allegation that English workmen skulked the working, and did not endeavour to earn the wages they received, he was prepared to admit that there was in human nature—in all human nature, and not specially in the case of workmen—the desire to get as much money as possible for as little work as possible. He would repeat that, in every department of life, it had been his own experience that every man, in his own particular way, strove to get as much as he could for the least possible amount of work. He denied that what had been said in this way, with regard to the workmen of this country, was any more true than of the workmen of any other country, or of the other classes of the community. The difficulty was unquestionably a great one of testing the amount of work a man could do. With regard to bricklaying, for instance, a great many people with whom he had come in contact, had got hold of an opinion that the proper number of bricks for a bricklayer to lay in a day was a thousand. Well, he need not say to any practical man, that in some instances a bricklayer could accomplish this, while in others he would be unable without a considerable degree of pressure put upon him. In some cases harder work was required to lay three per day than in others a thousand. Since the reading of Mr. Brassey's paper, he (the speaker) had talked with a great number of men with respect to the relative quantities of work done on the building to-day and twenty-five years ago; and in almost all cases, the answer he had met was, that the work done to-day would bear comparison in amount and quality with that done at any former period of their history. The only exception was where there had been a kind of "nigger-driving" in the outlying districts of London, where the "slogger" system had prevailed; but no respectable firm ever resorted to these expedients. What he (the speaker) was convinced of was—and he ventured to say it before a body of men who were competent judges—that if the workmen of London did not do their work to-day, the fault was not with the workmen but with the incompetent foremen engaged. The foreman should know the aggregate amount of work that the men combined were able to do, and it was his duty to see that every man was put in his proper place. As to the trades-unions, ninety-nine out of every hundred of the allegations made against the trades-unions with regard to the restrictions, were not true in the sense in which they were stated; he declared this after having examined the regulations of the trades-unions of the country. One of these rules which had been quoted all over the country was that bricks were not to be laid by the men with both hands. It had been a matter of surprise to him how anyone could talk about one-

handed bricklayers; and yet the employers' paper of capital and labour had printed some absurd story from an American journal that bricklayers were required to work with only one hand. What was the absolute fact? Practically, it was as difficult for a man to lay bricks with both hands, as it was for a clerk to write with both hands. Supposing that a man was perpetually in the habit of laying down his trowel and taking up the bricks with both hands, the result would be, that across the thumb of the one hand where the man was to hold the trowel, he would become for a time disabled: instead of gaining in the quantity of work done, he would lose. Many absurd things, indeed, were said of trades-unions, though he did not mean to say that trades-unions had not at one time adopted some absurd rules.

Mr. A. H. Hill pointed out that capital could do nothing without labour, and added that while people were noting the rise of wages in the labour market, they were forgetting the diminished value of money. But as to forcing labour to rise above its natural rate, they might as well try to send water up hill with hydraulic power. It should be borne in mind, however, that a reduction in the hours of labour was equivalent to an advance in the rate of pay. Friendship had been described as the cement and solder of society, and, similarly, education would furnish the securest bond of union between the two classes, capitalists and labourers. He advocated extension of knowledge, the diffusion of the principles of political economy among the working classes.

Mr. Horace Jones observed with reference to a previous remark, that from 1865 to 1875 there had been an accumulation of bullion in the country, of between forty and fifty millions; and the result of this, he said, was necessarily that an increased price had to be paid for almost every article in demand. A great many articles had been kept down by the advantages of machinery and skilled labour, but still, under the condition of things, it was quite natural that a workman must have his wages raised. The contractors were liberal, they all knew, though they would not perhaps put 5 per cent. upon the wages, under the contracts. There was this anomaly: that though there had been the accumulation of bullion he had mentioned, between 1865 and 1875, in the former year the taxation amounted to £2 10s. per head, and in the latter year it was £2 5s. 10d.

Mr. George Potter said that it was not in the power of the secretary of any union to create a strike without the sanction of the trade. In the conclusions arrived at by Mr. Brassey in his paper, there was very much that they could all agree with. No doubt Mr. Brassey had given considerable attention to the subject, and was fairly able to judge in the matter; but there were two standpoints from which the question was to be regarded. It was not correct to say that trades-unions were opposed to capital; they were aware that capital was necessary; they knew that it should combine with labour, and that when so combined it produced advantages in which both parties ought to share. The difficulty which existed was what profits should go to capital, and what fair reward should go to labour. During the last forty years, it was true that the building operatives had advanced 44 per cent. in their rate of wages, but capital had increased 250 per cent. in the same time. He was of opinion that the improvement which had taken place in building operatives was as much calculated to benefit the employers as to benefit the men. Had the employers' interests been really neglected? He thought not. The trade-unionists were only a minority, and they only pitched a minimum wage, and at the same time they found always that men outside them worked for whatever they liked. Not a builder present but knew that there were a great many men who worked under 9d. an hour, which was the minimum for society men, and he might also say the maximum. The master builders always knew the best men, and were always willing to take the best men at a minimum price; and it was far more profitable for a master to have a good workman at 9d. an hour, than to have an inferior man and pay him 7d. or 8d. As to piece-work and overtime, every architect and master builder knew that piece-work in many branches of the trade was impracticable. Some things, certainly, were done by piece-work; the joiners, for instance, did not object to it. But where it was done it ought to be done at a fixed scale. Piece-work was a curse to the masters, a nuisance to the men, and an annoyance to society. But he would like to be told something in explanation of the difference in the amount of the large contracts. The highest estimate for the new Law Courts was £1,000,000; the lowest was £720,000; yet there was a profit on all the figures tendered. In School Boards there would be a difference of, sometimes, £2,000. Now, the relations between masters and men were fast becoming differ-

rent from what they had been in former times. It was now pitting a man against a man, society against society. He maintained, however, that the honest English artisan did not desire to oppose the masters nor to vex them. They were willing to work as well as they could, but they wanted some small advantage from the increase of capital and the great progress of civilisation.

Mr. Lucas said that all the talk of Mr. Howell and Mr. Potter would not, if they talked till doomsday, alter the fact that the Englishman workman did not do a day's work. He (the speaker,) from his position in business, had been enabled to give Mr. Brassey the information he had requested for the purposes of his paper, and he thought that having done so, he was bound to stand up and maintain it. He (the speaker) was a working-man. He had begun business as a boy, working for 6s. a week. He had never had a shilling which he did not earn; and he had attained his present position, step by step, by doing all he was able to do, and by making the best friends he could. But he defied any man to rise to his position under the rules and regulations of the trades-unions. His position had been made by his own energies and his own freedom of labour. But, now, he would declare broadly that for 9d. there was little more than half the work done that there had been formerly for 6d. The only remedy for this state of things was piece-work and machinery. That the community generally were actuated by a resolve to do as little as they could for as much money as they could get, he utterly denied; but this infatuation did really possess the trades-unionists. Among society men the system certainly was to do as little as possible for as much money as possible. He quite agreed that the piece-work should be priced at such a rate as would enable the men to live. Of course, in making up estimates, there had to be considered the two items of material and labour; and he would undertake to give Mr. Potter and his friends all he received for any contract, less the sum expended upon material, and 10 per cent., 5 per cent., that was, for his capital employed, and the moiety for risk and his own personal application. No man would use stone when he could use stone. And why could he not use stone? Because the labour on stone was so exacting. The end of it would be the introduction of more and more machinery. As to the interference of trades-union officials to settle the extent of a fair day's work, this was undoubtedly a great nuisance. It was as vexatious as would be the constant interposition of a third party between husband and wife. Mr. Potter had stated that it was all nonsense to assert that there were rules enjoining upon the men to use only one hand; but he (the speaker) could aver that it was very far from being a fallacious allegation. For himself, if he might offer the men a piece of advice, he would suggest that, instead of expending enormous amounts upon strikes, the men aggrieved should devote those funds to the formation and conduct of a co-operative building venture. To continue as they were now going on was impossible. With respect to the greater cost of provisions, what was this consequent upon but the increased price of labour? In agricultural produce the cost was enhanced because the society imposed upon its members the charge of not ploughing more than a given extent. He was quite prepared to give his men the same rate of pay in the winter as in the summer, but he did not think they should knock off work in the latter season, inasmuch as it was then that they were able and did expect to get through a greater quantity.

Mr. P'Anson said it had been admitted by the advocates of unions, that they had formerly committed themselves to principles fallacious in their nature. The practical solution of the matter was the law of supply and demand. An instance of this was the case of domestic servants. This class of employés never struck, and yet their wages had risen 50 per cent. in the last twenty years. In the American trades-unions there were none of the restrictions which existed in our societies. There, a man could work as long as he liked for as much as he liked; and to this fact was to be attributed, he thought, gradual supersession of Great Britain by the United States. Employers had a perfect right to get their labour as cheaply as they were able.

Lord Houghton thought that strikes could not be said to have paid themselves—apart from considering the enormous amount of moral harm brought about by the forced abstinence from labour. In his own sphere of life, he perceived the greatest disinclination to lay out money on matters connected with a building, because of the uncertainty with which they were invested. As to the proposal for bringing workmen from other countries, there was much difficulty in acclimatising labour, and he did not look for much from any experiment of the sort. He was of opinion that the remedy lay in the direction of advanced education for the people. Surely

we had had most serious warnings, and the condition of the coal and iron trades, the state of South Wales, ought to instruct us. If the present agitation continued in the building trade, he was certain they would see in a few years an entire change in the mode by which industrial work was performed.

#### AMATEUR LITERATURE AND JOURNALISM.

THE copy of a little Dublin literary serial before us called the *Quarterly Echo*, suggests some observations. Amateur literature is no novelty, though amateur journals, as a class, are of quite recent origin. At present, the land of "Stars and Stripes" is the home and head quarters of the great amateur army of literary aspirants. The Dublin representative is rather creditably printed, and the paper and pictorial cover are good, but the matter or literary pabulum is weak. There is more pith needed, as well as back-bone, ere our juvenile friend can maintain a firm footing to command success. We are not inclined to be either unjust or hypercritical, as we are rather friends than enemies to all honest amateur attempts. The young magazine in question, if it lives, will, no doubt, grow stronger with its growth, and its contributors more wise and discriminating. Magazine literature of this class, though it has faults, should not be cried down by shallow scribes or selfish curmudgeons of the old school, whom influence and connection have more often pitchforked into chairs and sub-chairs, than their own intrinsic intellectual worth. Be it remembered, that most journalistic and periodical writers were, in their early days, amateurs, and many of them were glad to get the chance of ventilating their crude thoughts in the pages of professional journals, general and technical, according as their tastes directed.

A fairly-conducted amateur magazine may effect good—in fact it is capable of effecting good; but if badly conducted, or open to dishonest influences, it may do a deal of harm. Its writers should never be allowed to form themselves into a coterie or clique, or a Mutual Admiration Society, for the purpose of sounding their own praises, or writing one another up. This is a great danger to be avoided, and indeed it is an evil not unknown in connection with some of our older general journals.

For the information of our juvenile contemporary in Dublin we will give a few facts connected with a novel amateur attempt (perhaps unique in its way) made in this city a quarter of a century ago or upwards. A certain club or institute was formed, comprising a number of young men, including among others clerks and respectable artisans. A library was formed, classes in drawing were established, and a series of lectures on a variety of practical subjects organised. For the purpose of mutual amusement and instruction, and with the object of developing the latent talents of the members who might be literary inclined, a manuscript monthly magazine was started. The members among themselves selected an editor, and any member who thought he was capable of contributing an article wrote on any subject that suited his tastes—history, art, sketches, poetry, &c. Each contributor was obliged to write on sheets of paper of equal size, though he was not confined to keep his contribution to any particular length. To the editor was left the selection of the best MS. materials sent in, and he had full and uncontrolled liberty to select or reject whatever his judgment decided. The selected articles were stitched together, and enclosed in a stiff and ornamental cover, and the *Manuscript Magazine* issued (one number only) by the first of the month. The little magazine, it may well be supposed under the circumstance of its origin, had neither the "largest circulation" nor a "world-wide circulation," like some of our present-day journals; but it circulated among all the members, first on the reading table of the institute, and afterwards by ballot, in case of those who preferred a long night's

reading at home. The little *Manuscript Magazine* was also lent *sub rosa* by members to their friends, and its contents became pretty well known in certain quarters of Dublin. Without entering into long details, let us state that this novel representative of amateur journalism with its "leading" article, its sketches, its poetry, and its "Answers to Correspondents," produced some good writers. Two or more of its very young men contributors became in after-life journalistic and magazine writers, and editors and proprietors of popular newspapers; others became architects, builders, and contractors of note; more became respectable poets, and published volumes of poems. Some of the contributors to this novel literary journal are still living in Dublin and London; more are in America and Australia, and the green grass is growing over the graves of others in the land of their birth. Perhaps the above reminiscence will suggest a few thoughts, and awaken an echo in the breasts of more than middle-aged men, who were once amateurs and friends, but who now do not see, and seldom hear of, each other. The contributors to the *Manuscript Magazine* must be nameless for the present, including the writer of this brief notice, who was "One of Them."

### DRUMCONDRA AND GLASNEVIN TOWNSHIP.

WE understand that a petition against the Drumcondra, Glasnevin, and Clonliffe Township Bill has been deposited by Mr. Sands, parliamentary agent, instructed by Messrs. Dudgeon and Emerson. The petitioners are Captain G. H. Lindsay, D.L., the Rev. H. G. Carroll, Rector of Glasnevin; Drs. Guest, Taylor, and Finnegan, who represent the principal ratepayers of the district proposed to be formed into a township. The petitioners represent that if any of the powers sought for by the bill be necessary, they could be obtained from the Local Government Board at much less expense than by a special act. They also state that the district affected by the bill is agricultural, and not suited for a township, and that the bill was deposited without first consulting the ratepayers, upon whom it has been forced.

### THE ROYAL COLLEGE OF SCIENCE FOR IRELAND.

IN the House of Commons, on Tuesday, Mr. O'Donnell asked the Chief Secretary for Ireland whether he had seen an assertion, mentioned in a letter on Irish Education, in the *Times* of the 22nd inst., that "the Dublin College of Science, managed and paid by Government, numbered only 24 or 25 students, for an expenditure exceeding £7,000;" and whether he can inform the House what amount of truth there is in this statement?

Colonel Stanley—In the absence of the Chief Secretary for Ireland, I may, perhaps, be allowed to answer this question. As a matter of fact, I am not aware whether the Chief Secretary has seen the assertion to which the hon. member alludes. If he had addressed his question to my noble friend at the head of the Education Department, he would, no doubt, have been able to give him the information. In his absence, which I regret, as it is on account of illness, I have been requested to answer the question. The number of students in the Dublin Royal College of Science was 66 during the session 1876-7, of whom 21 were associate students going through the full course of study, and 45 were occasional students, taking one or other branch of study. In the present session, the number of students entered is 55, of whom 22 are associates and 33 occasional students. The college does receive £7,000 a-year. I should add, that the Science and Art Department were never, I believe, very sanguine as to the success of the Dublin College of Science, so far as the number of students was concerned; and in 1863 it was proposed to abolish it. In 1864,

however, Mr. Gregory's committee, composed chiefly of Irish members, reported strongly in favour of it, and the Government continued the grant accordingly.

[It has come to our knowledge through a private source, that a complete overhauling of the machinery of this so-called educational establishment, is looked upon as certain. The £7,000 per annum will in future be more judiciously devoted to the technical and scientific education of the artisans of this city.—ED. I. B.]

G. P. O.

#### A REMINISCENCE.

On our milestones still, you know,  
There is written "G. P. O."

"What," once asked an Englishman  
(In the days of Tribune Dan),

"Are these letters meant to show—  
Who or what is G. P. O.?"

Pat, who was a true O'Donnell,  
Shouted—"God Presarve O'Connell."

KIR.

### HOME AND FOREIGN NOTES.

**THE R. H. A. EXHIBITION.**—The Annual Exhibition of Paintings, &c., of the Royal Hibernian Academy, opened on Tuesday. The Lord Lieutenant and the Duchess of Marlborough, with other members of the Viceregal household attended, and were received by the Duke of Leinster, and the President and other members of the Academy.

**TRAMWAYS.**—It is stated that the Glasgow Tramway Company paid to the Corporation of that city, during the past half year, over £9,000, for interest and mileage royalty.

**DRAINAGE.**—The trustees of the Lough Neagh drainage district have unanimously adopted the contract of Messrs. M'Nally and M'Kee, of Cookstown, for the excavation at Toome weir at the cost of £3,500, the works to be completed before October next. The Lower Bann trustees have applied to the counties of Antrim and Derry for £3,000 to be immediately expended in removing accumulations in the Lower Bann river, and the Upper Bann trustees have applied to the counties of Armagh and Tyrone for £1,500 to remove obstructions from the Blackwater river, and for other purposes.

**A DEFAULTING ROAD CONTRACTOR.**—At the last Rathfrum Petty Sessions, before H. P. Truell and S. Hanna, Esqrs., Mr. Henry Brett, county surveyor, summoned Wm. Merrigan and his sureties, Christopher Merrigan and Richard Langrell, for neglecting to comply with a late order of the court, directing them to execute his contract within a certain period. Mr. Brett stated that the road was never put into proper repair by Merrigan; it was his duty to have 800 tons of metalling spread, but he had not put out more than 200 tons. What he had done was bad and insufficient. Their worships made an order to the effect that the county surveyor be authorised to complete the contract, and to levy the amount by warrant of distress upon the goods and chattels of the sureties, not exceeding the amount of £90.

**COLLAPSE OF THE SEA WALL AT LAHINCH.**—The sea wall at Lahinch, which cost the county nearly £4,000, has been completely swept away by the late spring tide. The lodges in front of the beach were considerably damaged by the inroads of the sea, and are uninhabitable. One lodge, formerly Synges, was knocked down by the force of the tide, and others are in a very dangerous state, the doors and windows being stove in. There appeared to be no engineering difficulty in building a solid permanent structure that would resist the encroachments of high waters at any time. It is quite clear that the failure rests not on the work itself, but on the design, the wall being built on a sandy foundation. During the construction of the work the contractor expressed an opinion that it would not stand.

**CHAMBERS IN THE CHALK.**—What seems a curious discovery (says the *Builder*) has just been made at Eltham Park, in the immediate vicinity of one of the ancient Royal Palaces of England. The authenticity of the discovery may not be doubted, we believe, being vouched for by Mr. Thomas Jackson, holder of the demesne of Eltham Park. Within the last few days Mr. Jackson employed some of his workpeople to discover, if they could, the cause of the leakage in his water supply pipes. Prosecuting researches, they came

upon a brick-lined drain, 2 ft. 9 in. square, the existence of which had never before been suspected, the course of which they followed, and, to their amazement, found it to end at the top of a shaft 5 ft. in diameter, and no less than 140 ft. deep. Due precautions having been exercised, the shaft was descended, and seemed to be of much older construction than the drain that led to it. The first 70 ft. of the shaft, or thereabouts, is lined with brick, and for 38 ft. lower with blocks of chalk, about the size of bricks: below this distance—about 105 ft.—the shaft has no lining, but is cut in solid chalk. From the bottom of the shaft a large chamber is entered by an archway 6 ft. high, by about 30 in. wide, cut entirely out of the chalk. This gives admission to a chamber 66 ft. long by 33 ft. wide, and 8 ft. high; that is also cut out of the chalk, with bands of flint showing horizontally round it. The roof, which is flat, is supported by three pillars running along the centre, and eight others projecting from the sides of the cavern, all of these pillars, as the cavern itself is, being cut out of the chalk. A few bones, apparently of cattle, were found in the cavern, and several iron nails driven into the wall at various places, with an iron bracket, supposed to have been placed for the support of a lantern, torch, or candle. The shaft was closed at the top by a brick arch, the crown of which reached within about 6 in. of the grass, yet strange though it may seem, Mr. Jackson states that none of the people working on the estate, their recollection carrying them back for fully 50 years, had any knowledge whatever of these curious subterranean structures and excavations. The character of the bricks, nails, and the form of the iron bracket, may be a clue to antiquaries in coming to some conclusion as to the original and subsequent uses of this singular excavation.

### TENDERS.

For erection of Incurables' Home, Cork.  
Mr. W. H. Hill, architect; quantities by  
Messrs. Gribbon and Butler:—

|                           |        |
|---------------------------|--------|
| Barry M'Mullen .. ..      | £7,826 |
| P. Kenna .. ..            | 7,745  |
| R. Longfield .. ..        | 7,259  |
| E. Fitzgerald .. ..       | 6,559  |
| John Delany .. ..         | 6,460  |
| T. O'Flynn .. ..          | 6,443  |
| Samuel Hill (accepted) .. | 6,195  |

For glebe house, Blackrock, County Cork.  
Mr. W. H. Hill, architect:—

|                               |        |
|-------------------------------|--------|
| R. Campion .. ..              | £1,899 |
| R. Longfield .. ..            | 1,895  |
| S. Thomas .. ..               | 1,835  |
| W. Barry .. ..                | 1,790  |
| S. Hill .. ..                 | 1,779  |
| E. Fitzgerald .. ..           | 1,715  |
| John Delany .. ..             | 1,658  |
| Terence O'Flynn (accepted) .. | 1,643  |

For alterations to Mr. Harvey's house,  
Passage West, Co. Cork. Mr. W. H. Hill,  
architect:—

|                           |      |
|---------------------------|------|
| S. Thomas .. ..           | £295 |
| R. Longfield .. ..        | 290  |
| E. Fitzgerald .. ..       | 210  |
| W. Barry (accepted) .. .. | 210  |

### TO CORRESPONDENTS.

Pressure of original matter has obliged us to cancel or hold over some notices of works, and other notes intended for insertion in this number.

RECEIVED—J. K. (drawing to hand)—F. W. (your name does not appear on our subscribers' list)—Architect (see our advertising columns for address)—F. C. (Messrs. Lockwood and Co., London, are the publishers of the work you mention)—B. A.—T. C. D.—A Workman—J. H.—R. E.—An Architect—W. B. (too stale)—C. E.—F. R.—G. S., and others.

### NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

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## Illustration.

DESIGN FOR MEMORIAL ALTAR.

## Contents.

|  | Page |
|--|------|
| MEMORIALS OF ST. STEPHEN'S GREEN .. ..   | 81   |
| Correspondence—The Main Drainage of Dublin and Suburbs; Is an Ash-heap a Nuisance? Who was Ollamh Fodhla, and from whence did he come? .. .. | 82   |
| Adversaria Hibernica—Literary and Technical .. ..  | 83   |
| Irish Slates .. ..   | 84   |
| The Destruction of Richmond Lunatic Asylum Hospital .. ..  | 84   |
| The Royal Dublin Society .. ..   | 84   |
| Ollamh Fodhla .. ..  | 84   |
| Lectures on Architecture .. ..   | 85   |
| The Egyptian Obelisk .. ..   | 86   |
| Remarks Introductory to the Study of Design .. ..  | 89   |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Eighteenth Part .. ..   | 91   |
| Notes on the Early History of the Irish Stage .. ..  | 93   |
| The Origin of the Telephone .. ..  | 93   |
| Railway Bridge Platforms .. ..   | 94   |
| The Midland Railway Competition .. ..  | 95   |
| Home and Foreign Notes .. ..   | 95   |
| To Correspondents .. ..  | 95   |

## THE IRISH BUILDER.

VOL. XX.—No. 438.

MEMORIALS OF  
ST. STEPHEN'S GREEN.

THE long-called-for public improvement—the free opening of St. Stephen's Green as a public garden, which we have constantly advocated, in and out of season, for the last twenty years—being now in a fair way of being realised, a brief sketch of the Green and its historical associations will not be out of place. We do not intend to carry our retrospect back for more than a couple of centuries or upwards. The Green is certainly a magnificent area, and, if properly laid out as a public garden, will be more magnificent still. Some public authorities or guides several years since have stated that the Green is a perfect square—the walk around, measured on the flagway, being 6 furlongs 31 perches and 3 yards, English measure; and between the chains and the railings only 25 perches and 1 yard less. Whether this be a correct admeasurement or not we are unable to state, but it is sufficiently near the purpose to convey an idea of the enclosure still, as anciently, called the Green.

Historically speaking, St. Stephen's Green derived its name from its neighbourhood to a church dedicated to St. Stephen, which may be seen marked on Speed's Map of Dublin in 1610; but of which no traces have existed for upwards of a hundred years, nor had there been in Dublin since its disappearance any church of the name until the erection of the edifice in Upper Mount-street in the present century. The common or Green, which existed as an open place, and not at all in a creditable state, was levelled and enclosed by a hedge in 1678. Trenches were dug to carry off the water; and, in the same year, the walks were gravelled and lime-trees planted. Towards the latter end of the last century, and even for several years in the present century, the condition of the Green,

though beautiful in the summer, yet in the winter time and in rainy weather the sward was quite swampy. A deep ditch of stagnant water ran around, which was separated by a hard gravelled walk from the interior. This promenade or walk was sheltered by a row of elms on each side, and protected from the streets by a dwarf wall about 4 ft. high.

The improvement of St. Stephen's Green was a public topic in the last century and the present at different times. When a committee was appointed to erect the Wellington Testimonial, the inhabitants of the Green applied for Parliamentary aid to enable them to improve the square. In 1815 commissioners were appointed, who levelled the interior again, and planted with shrubs and evergreens, filled the ditch, cut down the full green elm, lime, and ash trees, and removed the dwarf wall. A range of dwarf stone pillars, surmounted by an iron railing was erected; and the Green, under its Commissioners, got a new lease of life, and privileges of an exclusive character. The old Corporation of Dublin claimed the Green as their property, but they sold it to the inhabitants for the annual consideration of £300; and since about 1815 to the present it has been managed by Commissioners, who now make their exit.

The "equestrian stranger statue" of George II., in Roman habit, the work of J. Van Nost, was erected in 1758. This statue gave rise to much discussion during its time, and more than once narrowly escaped destruction. In Wright's "Dublin," it is stated, "For a number of years it appeared to be destined to fall, like that of Sejanus, by the hands of ruffians; from its remote situation, mid-night depredators were induced to make a trial of their skill in sawing off a leg or an arm for the value of the material. One leg of the horse was cut off, and a saw had nearly penetrated his neck when the watchmen were alarmed by the noise, and routed the depredators. Originally the pedestal supporting the statue was a large mass of masonry; but it was subsequently much reduced in size, which gives the whole testimonial, in such a large area, as seen from outside the square, a diminutive appearance.

A protracted dispute took place between the Commissioners of the Green and the Committee for the erection of the Wellington Testimonial, in 1816. It was urged by the latter that the statue of George II. should be removed to some other site, and the Wellington Testimonial, should take its place. It was, however, ultimately decided by some regal minds "that a king ought not to be removed to accommodate a subject."

In the last century, when the municipal custom of "Riding the Franchises" used to be carried out with garish display, St. Stephen's Green was the place where the several City Guilds or minor corporations assembled, with their respective emblems and banners, previous to commencing the perambulation of the city bounds. It was also the place of muster for the Leinster division of the Irish Volunteers previous to their display or review in the Phoenix Park. At these provincial grand reviews the Volunteers marched to the number of 7,000 foot and 15,000 horse. In Malton's "Views of Dublin" there is a very picturesque view of St. Stephen's Green, embracing the buildings on one side of the square—a few with their antique gabled brick fronts. John Whaley's (Buck Whaley, sometimes termed Jerusalem

Whaley) stone-front mansion (now the Catholic University), is brought prominently into Malton's picture, with the figure of the couchant lion executed by Von Nost over the doorway.

In the last century St. Stephen's Green was commonly called "Gallows Green" by some of the old citizens, and even in the earlier part of the present century the term continued to be used occasionally. From the fact of a gallows existing, or being erected from time to time, near St. Stephen's Green for public executions, the term of "Gallows Green" originated. A good quarry of building stone (calp) was worked in the last century on the east side of St. Stephen's Green. Referring to the date of 1763, Ruttly in his "Natural History of Dublin," says that for twelve years previous to the year mentioned a quarry had been opened, "and has enriched its proprietor, consisting of a grey stone," &c. Again, "Near the gallows, beyond the Stephen's Green, a dark grey sort and very good, and by reason of its situation near the town very profitable to the proprietor." Ruttly also mentions—"Lead ore has been found at the quarry near Stephen's Green," &c. Besides Whaley's mansion, already mentioned, there are, or were others, around the Green, worthy of note from their occupiers in the last and the earlier portion of the present century—Kerry House, Lord Charleville's House, Lord Rosse's, the Chief Baron's, Mr. Plunkets (afterwards Lord Chancellor), the Archbishop's of Dublin, and others. The line of buildings around the Green present a very irregular appearance in size and style. But the old brick mansions, several of which have undergone changes, or in other instances have disappeared altogether, though irregular, presented a very picturesque appearance.

We might lengthen our memories of St. Stephen's-green, its belongings and surroundings inside and out for the last thirty or forty years; but as distance, it is said, adds a charm to many things, we have mostly confined our subject to older days, ere railways, and tramways, and baby perambulators replaced stage coaches, jaunting cars, and sedan chairmen. St. Stephen's-green may be made to look charming with rockery work, shrubs, geometrical floral tracery, figures and fountains, winding walks, green and closely-mown grass plots, nicely trimmed borders, and last, though not least, easy reclining chairs for visitors and lovers; but under no conditions will it ever look as picturesque to the sight of the present generation as it does when it meets an old citizen's eyes in the pages of Malton.

Sir Arthur Guinness has faithfully performed his undertaking, and deserves the gratitude of all our citizens, irrespective of creed or party or social standing. The Green is taken possession of formally, in view of its speedily opening. The plans are in a general way all prepared for its new laying out and ornamentation. The delay that unavoidably took place is principally owing to the fact that the act did not become law last year until it was too late to make suitable arrangements for commencing the necessary work. With a spring time and summer before, and a winter behind, we trust now that the works will be pushed on with vigour, and that the free opening of St. Stephen's Green will be quickly followed by the free opening of the other public squares of Dublin.

## CORRESPONDENCE.

## THE MAIN DRAINAGE OF DUBLIN AND SUBURBS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—For many years the drainage of our metropolitan city has been a theme for speculation and invention, and many schemes have been evolved, much consideration has been expended on the subject, and a vast amount of money wasted to no purpose.

Other cities have been even less fortunate, and in pursuit of false deductions and erroneous theories works have been carried out that too late have proved abortive and obstructive, and consequently a greater evil than what they were designed to cure.

In our case the great *sine qua non* has ever been (in connection with the drainage of the city) the purification of the River Liffey, at least as far as Carlisle Bridge; whilst in any of the schemes that I have seen, the converting of our beautiful bay into an open cesspool appeared to be the great desideratum—only, instead of using the river channel as an intercepting sewer, some other means should be devised to bring the sewage matter into the bay, and thus whilst on one side we had the Ballast Board (under whatever name incorporated), straining its every nerve to improve the harbour and river, on the other side were marshalled citizens and professionals, all eager with plans and propositions, caring little for the spoliation of the bay or bar, so long as the delicacy of their olfactory nerves was cared for, and that the effluvium of the river was not permitted to come “betwixt the wind and their nobility.”

One glance at the map of the County Dublin should be sufficient to convince a non-prejudiced observer that a more unfit outfall for the sewage of a great city could not be found than our justly celebrated and beautiful bay; and although the commissioners of one of the city suburbs (from some cause or other, not easily understood) have concluded on discharging their town sewage into the bay in front of their terraces of villas, and public gardens, we will live in hope that their idiosyncrasy will have an ending, and that even their inhabitants will not always be debarred from a wholesome bathe in *clean water*.

I have studied this subject in many cities, and although unable to say whether the system pursued in Paris is the best, I believe it to be simple and effective, and only wish we in Dublin had any as good. There the great main drains are tunnels or subways of a sectional area of 18 by 16 ft., carried to such a distance from the city, that although they empty into the river, they do not pollute it or render it unfit for washing clothes or bathing in during its course through Paris. The enormous expense was all borne by the municipality, which need not be the case with Dublin, as I hope to show further on.

Apart from the drainage of the city and the pollution of the river and bay, the improvement of the bar and deepening of the lower reach can scarcely be looked upon as a secondary consideration, and every drop of water that can be brought to add to the scour without adding to the sedimentary deposit is of consequence, and it is a matter for grave consideration whether it were wise to occupy any portion of the waterspace within the Bull walls by the prolongation of the North Wall quay, at least until the mile of quays afforded by the Pigeon House-road had been utilized.

At the time the Dublin and Drogheda railway was in contemplation, the Admiralty insisted on the two openings being left in the embankment across the Fairview strand in addition to that requisite for the river Tolka, and is always most jealous at any tidal waterway being interfered with. An immense addition could be made to this waterway by the erection of floating docks between the Pigeon House wall and Irish-town, having entrances from the river, and a bridge across the Dodder from Hatch's

corner, which would provide an uninterrupted line of quays from Carlisle Bridge. No locality in the world has more ample material for the formation of such works,—granite, calp, and limestone, for the raising; and the citizens will probably wake up some day when the hobby of concrete “*dirt pies*” has been ridden to death, to find their mistake in the neglect of the source of wealth and power provided for them by nature.

Two great lines of intercepting sewers or tunnels could be made to prevent any pollution to the rivers which discharge their waters into the bay, and by purifying them add to their power for increasing the depth of water on the bar, and ultimately removing it. These rivers are, the Liffey, Dodder, Tolka, Poddle, Camac, Braddoge, and Swan, the three latter of small moment, but “mony a little makes a muckle,” and all are now more or less used as open sewers, the Poddle and Braddoge being most objectionable, and the Camac particularly so (especially in the neighbourhood of Rouselstown), where it does the dirty work of Kilmainham.

My proposition is: to construct a sewer or tunnel from a point in the west of the city of Dublin (say about Inchicore), of a sectional area of 12 ft. by 10 ft. or thereabouts, along the southern line of quays or other line or lines to be determined on, through the suburban villages of Irishtown, Sandymount, Williamstown, Blackrock, Kingstown, and Dalkey, to a point of discharge in Killiney Bay adjacent to junction of Dublin and Kingstown Railway with the Dublin, Wicklow, and Wexford.

For the north side of the city I would carry the main sewer to Ballybough Bridge, there to join my scheme for drainage of Glasnevin, Drumcondra, &c., which I set forth in my letter to North Dublin Union of 5th ult., of which the following is a copy:—

“DEAR SIR,—Will you do me the favour of laying before the Guardians of the North Dublin Union, when next assembled, certain designs or schemes for the main drainage of the districts comprehended in the general terms of Cabra, Glasnevin, Drumcondra, Clontarf, Dollymount, Raheny, and Baldoyle, which I am of opinion, if adopted, would go far to remove opposition on the part of the Port and Docks Board or the inhabitants of Clontarf.

My proposition is as follows:—Firstly. To construct a main or intercepting sewer of suitable capacity commencing at a convenient point in town or village of Glasnevin or thereabouts, at a level of 100 ft. above low water mark of spring tides, passing thence through townlands of Bankfarm and Drishoge to Milbourne-lane, crossing mail-coach road to Drumcondra and Santry, and taking the Drumcondra road sewer, thence along public road by Drumcondra, Richmond, Fairview, and so on to, and past, Clontarf and Dollymount to a point to be hereafter determined, in Heronstown or Bettyville and through the townland of Foxlands to the main road to Howth to a point in the townland of Burrow, there crossing the isthmus and entering the rabbit warren to discharge at low water on Cush Strand.

Secondly. To construct a main or intercepting sewer of suitable capacity, from a point to be determined on, in the village or townland of Cabra, along public road through townland of Grangegorm, crossing the Phibsborough-road at the old turnpike, which is 100 ft. or thereabouts above sea level, passing along Circular-road to Lower Dorset-street, thence by Drumcondra-road and Clontarf-road to Ballybough Bridge, and thence by a bridge or aqueduct across the River Tolka to join and discharge into sewer No. 1, at or opposite the Constabulary Barracks at Fairview.

By these two schemes, which could be constructed as required, all pollution of the River Tolka would be avoided, and all interference with the Clontarf strand and tidal waterway of the River Liffey; the drainage of Cabra, Glasnevin, Drumcondra, and Clontarf township greatly facilitated, as also

Raheny, and the outlying districts of Kilbarrack and Baldoyle.

Should your board desire to entertain this proposition, I will prepare a map and section, with details, for their consideration.

JOHN S. SLOANE.

Thomas H. Atkinson, Esq.”

To meet the objection that no doubt will be raised as to the expense of these plans, I propose that each township benefited bear its proportion of the outlay. The work well carried out, in good stone and brick, avoiding all shams such as concrete, &c., will last for ever, and effectually prevent all danger of making our bay a huge cesspool.—

JOHN S. SLOANE.

Balmoral Lodge, Clontarf,  
March 4th, 1878.

## IS AN ASH-HEAP A NUISANCE?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Say in next issue can I compel my neighbour to remove heaps of coal ashes (many tons), collecting for years in a small yard of about ten square yards. It is not in a sanitary point of view a nuisance, having no smell,—but it is undoubtedly an eyesore to my house, and the dust is sometimes blinding.

NIMROD.

[A mere heap or heaps of coal-ashes, unless they contain decaying vegetable and feculent animal matter, are not, strictly speaking, nuisances; neither is an eyesore, *per se*, necessarily a nuisance. If, however, these heaps of coal-ashes are piled up in the front or back-yard of an adjoining private house, and their removal unnecessarily delayed, a next-door neighbour can compel their removal within a stated time. The accumulation of house-ashes or dust-bin rubbish in the back or front yards of private dwellings, and even in the case of what is termed “trade refuse,” are embraced in one or more of the Sanitary Acts, and their removal is provided for. Even substances that do not smell foul or sicken may be a nuisance. If dust or ashes is kept in such a way to be acted upon by the wind it is a nuisance, for it is “blinding” dust. Dripping water from a railway or other arch may be a nuisance, and is often a nuisance, for it interferes with the comfort or right of the public. Particular cases, however, must be judged by the circumstances under which they exist and are surrounded, ere they are adjudicated upon, even though they be in violation of an existing Sanitary Act.]

## WHO WAS OLLAMH FODHLA, AND FROM WHENCE DID HE COME?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the number of the IRISH BUILDER for February 15th appears a statement, that this celebrated man was the fortieth king of Ireland, upwards of three thousand years ago. It may interest your Irish readers to learn that the Jewish writers claim that monarch as one of their people. In the *Jewish Chronicle* of September, 1872, appears an article written by the Rev J. B. Barnette, in which it is stated, that at the time of the Babylonian captivity, the Prophet Jeremiah, with a remnant of the tribe of Judah emigrated to Ireland, and became the celebrated Irish reformer and law-giver, Ollamh Fodhla. That he brought with him the stone known as “Jacob's Stone” (kept in the 1st Temple Sanctuary,) “the stone which the builders rejected,” and known in Ireland as the “Lia Fail,” or Stone of Destiny, the subsequent adventures of which, and its present location under the Coronation chair in Westminster Abbey, are too well known. The above, if true, may to some extent account for the fact, that Ireland is the only nation in which the Jewish people were never persecuted,—a fact gratefully (if the chosen people possess such a feeling) acknowledged by their teachers.

J. K.

ADVERSARIA HIBERNICA,  
LITERARY AND TECHNICAL.

IN the County Wicklow and the southern districts of the County Dublin there are some extraordinary tales still current about gold "finds" in the last century, and of certain folks who leaped suddenly from indigence to wealth by picking up in the mountain streams "tremendous nuggets." There was, no doubt, considerable quantities of gold collected by the people in one or more streams in Wicklow. Professor Kane, in his "Industrial Resources of Ireland," published in 1844, alludes to some of those gold finds, particularly those occurrences which took place in the bed of the streams which descend from the northern flank of Croghan Kinshela, a mountain on the confines of Wicklow and Wexford. The "nuggets" occurred in massive lumps and in small pieces, down to the minutest grain. The story of these finds, and others which never took place, travelled through the country like "wildfire," and the Government of the day, soon after the discovery, busied themselves in the matter. Steps were at once taken, and the business of extraction placed under a Mr. Weaver and some others. The method adopted was the old primitive one of washing the clay or other soil in vessels with water, repeated and repeated until all the earthy matter was completely got rid of, and the metal or ore easily discovered and picked out. In some instances the operation of dissolving out with mercury particles of gold too small to be recognisable was adopted. It was stated that the total quantity collected by the Government workings during two years was 945 ounces, which was sold for £3,675. This was a cheering return considered in itself; but the cost of the workings and several trials made in search of the original deposit of the gold exceeded the return. The workings were stopped, and it was believed that they would again be resumed; but the Government did not renew their efforts. During the gold-finding period alluded to it has been computed that the Government paid at least £10,000 to the country people for gold collected before the former took possession of the works. The localities said to have yielded the largest quantity of gold are Ballinvalley, Ballintemple, and Killahatler. In the earlier part of this century the last-named district was leased to a London company, and workings of an imperfect kind were carried on for some time, but were eventually abandoned. It has, of course, been established beyond doubt that there is a quantity of gold and silver ore in Wicklow, for the latter ore is found associated with the lead in the Ballycorus mines and in other places. The mystery, however, respecting the source of the Wicklow gold remains still unsolved. The occurrence of the metal or ore in the streams is not an accidental matter. There must be some underlying rocks in some particular spot where the prize is embedded, and the veins are rich. It is useless, however, to speculate, though time may yet unfold, either through accident or enterprise, the golden treasure.

The student of Irish history can have no doubt upon his mind but that sources of native gold were known to his countrymen at a very early period. Our museums and private collections attest the fact by the abundance of gold and ornamental weapons they contain, proving that clever artificers must have existed at a remote period in Ireland.

Just as we were finishing the above paragraph the following met our eyes in a Dublin magazine of November, 1794, under the heading of "Cork":—"Mr. Raspe, the celebrated mineralogist, has been lately in this city, after having explored the mines in the vicinity of Killarney, and his researches have been crowned with the greatest success. Among many others he has discovered the richest cobalt mine in Europe, a ton of the ore of which it is computed, at a moderate calculation, to be worth £250 sterling; and

what renders this ore the more precious is that it is in great demand in China, where the India Company exports annually to the amount of £180,000 worth, which they principally draw from Saxony at a very heavy expense. A company, consisting of very independent men, is already formed in Killarney to work this mine. Mr. Raspe has also discovered, according to the same paper, a very rich mine of gold in the Province of Munster, a specimen of which he laid before the Royal Irish Academy in May last." Cobalt ore has been found in quantities at Killarney in by-gone years; but we have not met with any particulars respecting the "very rich mine of gold" said to have been discovered by Mr. Raspe in the Province of Munster. Despite the cry that Ireland is peculiarly an agricultural country, it is evident to those who care to examine for themselves that this country is not at all poor in mineral wealth. We more than once gave a list of the principal minerals in the several counties of the four provinces. Apart from the precious metals we have other minerals in abundance, awaiting native enterprise and native and foreign capital combined to utilize them. Our building materials are in the greatest profusion—stones, clays, sand, &c. Irishmen were told this upwards of a hundred years ago, by strangers as well as by their own countrymen; but only a few, a very few, profited by the information. Professor Kane, upwards of thirty years ago, preached the same truths, and for nigh twenty years we have been "hammering" away in the same direction.

Dublin magazine as well as newspaper news of eighty years ago and upwards is no doubt stale news in the ordinary acceptation of the words, but some of the items are refreshing, by contrast with present hour topics.

Here is a case of trade combination under the date of November 1st, 1794:—"The journeymen carpenters were acquitted of the combination and assault, but were found guilty of the riot, and sentenced to be imprisoned for six months, and to be bound to keep the peace for three years, themselves in a security of £100 each, and to find sureties for £50 each."

Here is another kindred item about the "Sons of Crispin," who appear to have been in a striking mood as well as their brother "chips":—"Yesterday thirty-five journeymen shoemakers were arraigned under 12 different indictments, founded on the 19th and 20th of the King, for unlawful combination, under the pretence of regulating trade; of these six only were tried, and of these three were found guilty, viz., James Bullen, Robert Adams, and James Fulham. They were sentenced by the court to a fine of £100 each, reducible, however, at the court's discretion, according to their demeanour before next commission."

Here's a "King Billy's" birthday celebration, in the last century in Dublin:—"This day (November 4th, 1794), being the anniversary of the birth of the late King William III., his excellency the Lord Lieutenant went in state from the Castle through Dame-street, College-green, Grafton-street, and round St. Stephen's-green. The army upon the occasion afterwards fired a *feu de joie* round the statue of the late King William in College-green. His Excellency had a levee this day at the Castle, previous to his going in state round St. Stephen's-green."

"In consequence of the heavy fall of rain, Patrick-street and Patrick's Close, Bride's-alley, &c., were yesterday inundated (Nov. 20th, 1794)—the houses several feet under water; as also the Lower Castle Yard, Palace-street, Crampton-court, and that part of Dame-street impassable for foot passengers. Boats plied all yesterday in Patrick-street, Castle Yard, &c."

Under the same date we find the following item:—"The remains of his late Grace the Lord Primate [Robinson] arrived on Monday, on board a British trader, and were conveyed to Henrietta-street [his town residence]. They are to be removed for inter-

ment to the Cathedral of Armagh, which, during his lordship's life, received so many marks of his attention and munificence, and which in death has the last bequest of giving sepulchre to his remains. A horse esteemed by his grace was landed from the same vessel. By his desire this favourite animal is to be allowed to spend the remainder of his days in splendour and ease upon some of the estates which were purchased by his lordship in this kingdom."

"Kerry House, at Stephen's-green, which has been for so long a time at market, was yesterday [December, 1794] disposed of for £7,000. £10,000 were offered and refused for it in the summer of 1792."

Towards the close of the last century it would appear to have been dangerous to be out late at night about the vicinity of Eccles-street or the "Big Tree," Lower Dorset-street (then Drumcondra-lane). Under the date of December 11th, we read:—"A gentleman returning home on Friday morning last, between the hours of twelve and one, was stopped by two robbers in Upper Dorset-street, near Eccles-street; but the neighbourhood being alarmed by his cry, they effected their escape, after taking from him a silver snuff-box. A policeman absolutely refused to go any further than the extremity of Eccles-street."

Here is an item under the date of December 18, in the same year, which we would commend to the attention of our present municipal authorities:—"A poor man yesterday broke his leg in the lane leading from Fleet-street to Carlisle Bridge. He very philosophically thanked God he had one left to the good, to the inexpressible satisfaction of a Paving Commissioner, who was present at the accident."

Here is a mail coach robbery reported under the date of December 19:—"On Friday evening about 8 o'clock, the postboy conveying the Dublin Mail to Enniscorthy and Wexford, was stopped within half a mile of the former place by a single footpad, who took the horse and mail and rode off. The horse was found about an hour after stripped of his saddle."

Under the date of December 20th we have two items reported, one concerning a robbery at Lady Barry's, at Sandymount, and the other the supposed loss of a large sum of money, and its recovery. "Last Wednesday night, the house of Lady Barry, at Sandymount, near Ball's Bridge, was broken into by a gang of miscreants, and robbed of valuable articles to a considerable amount. These savage ruffians, on entering into Lady Barry's chamber, fired a pistol at her, which fortunately missed its aim, but strewed the room with slugs with which it was loaded."

"The following extraordinary circumstance happened last week. A merchant in Dublin sent 1,000 guineas to his friend in Waterford, above 300 of which worked out of the box between Dublin and Clonmel; as soon as the owner perceived the accident he set off for Clonmel and found them in the boot of the coach, where they had remained for near 24 hours."

Robberies of all kinds, duels, faction fights, elopements, abductions, harsh laws, much oppression, great ignorance, much superstition, and little education was the order of the day, not only in the last decade of the eighteenth century, but for a good way into the present century.

A chapter on the rise, manufacture of, and the improvement that has taken place in the making of workmen's tools in the building trades alone would form an interesting one. We fear that we must yield the palm to the Americans during the last quarter of a century or upwards for the majority of the improvements effected in the manufacture of workmen's tools in the building trades. Varieties of hammers, planes, moulding and otherwise, hatchets, adzes, boring and drilling tools, and numerous others. Wood-working machinery has almost superseded the use of several hand used tools in large workshops,

though they are still continued to be used by workmen in smaller workshops and in the country districts. A certain number of hand tools will be always indispensable, and no system of machinery will ever do away with their use. Many of our carpenters and joiners and other workmen's tools of British manufacture are still susceptible of great improvement in shape and make, but to this we may further refer in detail on another occasion. H.

### IRISH SLATES.

WE have to direct the attention of parties building to a cargo of slates now discharging from the ship *Triad* at Custom House Docks. They are from the Benduff and Free quarries, County Cork, and are of various sizes from 24 x 14 to 20 x 10. The colour is a greenish grey, and the slates run very even. Prof. Hull, in his "Building Stones of Great Britain," says:—"The south of Ireland may be found capable of yielding far larger quantities of this valuable commodity than hitherto, but which for want of perseverance have not been rendered available." The agent of the Benduff and Free Company (Limited) will be happy to quote prices at the depot, 111 Lower Gloucester-street. Sample slates may be seen at our office.

### THE DESTRUCTION OF RICHMOND LUNATIC ASYLUM HOSPITAL.

SINCE our last issue a destructive fire has taken place at the asylum, involving almost the total destruction of the male hospital. The building was an erection of recent years, on which from £15,000 to £20,000 had been expended. Happily only one human life was sacrificed. In the coroner's inquiry that took place subsequent to the fire, the evidence elicited clearly showed that the water supply appliances were most defective, and sufficient precautions were not taken to provide against always possible accidents of the kind. If proper hydrants and pipes existed, and the asylum buildings were connected with the city water supply, the pressure would be quite sufficient to reach the required height. There should also be a fire engine in connexion with the establishment, and a station sufficiently near to be utilized; for no length of hose, no matter how long, with imperfect hydrants, and want of sufficient pressure of water, can be of much use in saving a large and high public building. Warnings come after, yet our public bodies and the directors of our public institutions will not profit by them.

### THE ROYAL DUBLIN SOCIETY.

At a stated meeting of this society held on the 7th inst., the following report was presented:—

"In consequence of the arrangements effected with the Government, the official staff, of whose services the society has had the advantage, have been exclusively taken over by the Government, and the council have, therefore, been obliged to take steps to fill the offices so vacated; and they have been fortunate in securing, as a temporary arrangement, the services of Mr. J. Moss, the society's analyst, as registrar, in the room of Dr. Steele, who has been appointed a General Director of the Science and Art Museum, including the Natural History and Agricultural Museums, Library, the Botanic Garden, Glasnevin, and the Metropolitan School of Art. The society will be glad to learn that the agreement effected with the Royal Agricultural Society of Ireland, for the purposes of its amalgamation with the agricultural department of this society, has been ratified by that body. It is to be regretted, however, that the Government has not yet notified whether it will extend to the proposed amalgamated society the advantages, either in whole or in part, specified in Lord Sandon's letter of the 8th February, 1876, and in the provisions of agreement of 5th March, 1877—this being the only obstacle now remaining to the carrying out of the terms of amalgamation. It is unnecessary to remind the society that the meeting of the British

Association for the Advancement of Science will be held in Dublin in August of the present year. It will be the duty of the society, especially as it was the body which originated the invitation, to take steps for its fitting reception. The council has, consequently, decided upon having a conversazione on one evening during the week of the meeting, which they anticipate, by exertions and liberality of the members, will be as creditable to the society as those held on previous similar occasions. The conditions upon which the conversazione will be held are the same as those which prevailed in 1857, when the association last met in Dublin, namely, that the members and associates of the British Association only shall, in addition to members of the society, be admissible on presenting their cards. As none of the corporate funds can be applied in providing refreshments on the occasion, and in order to assist to meet other expenses it is intended to open a subscription list, so as to raise a sufficient sum for the purpose. Towards the general objects of the conversazione the Reception Committee of the association has offered to contribute a sum of £100, and the council of the Royal Dublin Society has agreed to contribute a like sum for the same purpose. The society is aware that it is entitled to a sum of £10,000 as part consideration of such lands, buildings, and collections as have passed into the hands of the Government. The sum in question has not as yet been paid; but the Lords of the Treasury have agreed to allow interest on that sum from the 14th August last until it shall be received by the society. The Treasury has also instructed the Board of Public Works to complete the purchase of certain premises in Shelbourne-place, for which a sum of £1,000 had been deposited some time ago in the hands of trustees until such time as the vendor should obtain power under an act of Parliament to effect the sale. As soon as the purchase of the premises in question is completed by the Government, the sum above specified will revert to the society. With reference to the finances of the society, the council have much pleasure in reporting upon their satisfactory condition. The large accession of members which has recently taken place, the realisation of the 'Shaw Bequest,' as well as the acquisition of sums from other sources, has enabled the council to invest a considerable sum as the society's capital. The society have no doubt observed with satisfaction the highly important work which is now being carried on by its scientific department. The papers read at the scientific meetings, and which will be published in the scientific proceedings and transactions, are, in point of interest and importance, comparable with those brought before any of the scientific societies in the sister countries. The afternoon scientific lectures have been of unusual interest, and have been attended by large and appreciative audiences. In conclusion, the council anticipate that when the Royal Dublin Society is fully organised under a supplemental charter it will take a high position amongst the learned societies of the United Kingdom."

### OLLAMH FODHLA.

THE following appeared in the correspondence columns of *The Irish National Magazine* (edited by Stephen J. Meany, as referred to elsewhere in present issue), for July 11th, 1846. It may be of interest to our readers generally:—

"Ollamh Fodhla ascended the throne of Ireland A.M. 3236, and reigned 40 years. He not only promulgated laws himself, but, as will be seen from the following extract from O'Clery's *Leabhar Gabhala*, or Book of Invasions and Conquest, was selected by the Irish to rule over them, on account of his great knowledge and learning, and his disposition to preserve the laws and regulations already established:—'Ro ghabh tra Ollamh Fodhla mac Fiacha Fionnscothaigh righe Eireann. As aire do gairthi Ollamh Fodhla de ar a bheith na righ agus na ollamh. Eochaidh a ched ainm. Du raghsat fir Eireann Ollamh i a righ naiste, ar iocait a theasa agus a fhoghloma, do choimhead a reachta agus a riaghla, agus ar a chaimacht aga nioncosnaimh i ceathaibh agus i ceonghalaihb eachtrann. As e cedas do ordaigh toiseach ar gacha triocha ced; brughaidye ar gach baile agus a foghlomadh nile do righ Erenn. As e cedna righ las a ndearna Fes Teambrach amuir Ollamhain it Teamhraigh,' &c., &c. 'Then Ollamh Fodhla, son of Fiacha Fionnscothaigh, took the sovereignty of Ireland. The reason that they called him Ollamh Fodhla was on account of his being a king and an ollamh (a professor or doctor). His first name was Eohy. The men of Ireland called Ollamh as king over them, on account of the greatness of his knowledge and his learning, to preserve their laws and regulations, and on account of his

valour, to defend them in battles and in foreign wars. It was he who first ordained a chief over every district, and a Brughaidh over every town, and all their services to the monarch of Ireland. He was the first king by whom was held the Fes of Tara in the college of professors in Tara," &c., &c. To prove the existence of *written laws* in this country, at an early period, we would refer to such authorities as Archbishop Ussher, Edward Lhuyd (author of the 'Archæologia Britannica'), Sir James Ware, and Dr. Nicholson, Bishop of Derry. The first of these, in his 'Discourse showing when and how the imperial laws were received by the old Irish,' says:—"The Irish never received the imperial laws, but used still their own Brehon laws, which consisted partly of the ordinances enacted by their kings and chief governors, whereof there are large volumes still extant in their own language." The Welch antiquary, Lhuyd, in writing about Irish manuscripts which he had procured, says—"What is most valuable amongst them are those old laws which might give some light to the curious as to their national customs." Sir James Ware, in the 8th chapter of his 'Antiquities of Ireland,' observes:—"There are yet extant, as I have heard, some books, in Irish, containing the laws of some of the ancient kings of Ireland, before the coming of the English, which, doubtless, are very necessary to understand the government among the ancient Irish." The Right Rev. Dr. Nicholson, Bishop of Derry, says:—"Our historians generally agree that there was, *very early*, a body of laws in this kingdom; and they do as unanimously allow that they grew up to maturity, from a very weak estate at first. By the guidance of their law-maxims, and other like rules, the *Brehons* (or judges) of several provincial kings determined all controversies brought before them, and their general axioms were the *leges Brehonice*, whereof several specimens are to be seen in our public and private libraries. The most complete collection that we have of these is in the Duke of Chandos' library, and even this is far from being perfect. It contains twenty-two sheets and a-half, close written, in two columns; the former whereof is not quite legible, and full of abbreviated words. It puts me in mind of HOEL DHA's Laws; several copies whereof (that I have seen) are in the like condition; but as there is now an accurate edition of these in the press of London, so I am willing to hope that I may live to see the like care taken of our *Brehon laws*."

The Walter press appears to give satisfaction to those who have adopted it. For some time past the seven Walter presses used by the *Daily News* have produced each morning the surprising number of 1,500 perfect copies per minute, making in all 90,000 copies per hour. An eighth Walter press is being constructed at the office of the *Times* for the *Daily News*. When this is erected, in the course of six weeks, our contemporary in Bouverie-street will be able to print nearly 103,000 copies per hour. —*Athenæum*.

THE DUBLIN CHIMNEY SWEEPS GREIVANCE.—Re the fire at Richmond Lunatic Asylum, Mr. Christopher Morrison, the chairman of the Regular Chimney Sweepers Society, writes:—"That it has been the practice of the officials of the above asylum to get the poor madmen or labourers to sweep the chimneys for the last two years, they having taken the idea into their heads to disemploy the Regular Chimney Sweepers, who were sweeping the chimneys for 30 years, and were dis-employed without any fault whatever; therefore no wonder, Mr. Editor, that the chimneys are perpetually going on fire for the want of sweeping by a practical chimney sweeper. It is more than probable had a Regular Chimney Sweeper the contract of keeping the chimneys properly swept, poor O'Brien would be alive to-day, and the splendid building saved from ruin."

THE OPENING OF STEPHEN'S GREEN.—We devoted an article elsewhere to the subject of the Green in an historical sense, but we may add here that at last Monday's meeting of the Corporation the Lord Mayor is reported to have said—"It was right he should mention to the house that Sir Arthur Guinness kindly called on him that morning at the Mansion House with the plans for Stephen's Green. They must be all greatly gratified to find those plans so elaborately drawn out, and he had personally to thank Sir Arthur Guinness for his kind attention in bringing those plans to him. He begged him to lay them before the council, and said he would be most happy to give members any information concerning them. In reply to Mr. Gunn, the Lord Mayor announced that the plans would be in the Town Clerk's office on the following day for the inspection of members."

\* Fes, a parliament or assembly of the states of Ireland, held at the commencement of winter in every third year.

## LECTURES ON ARCHITECTURE.\*

(Continued from page 70.)

IF this be a needful caution to the architect, something may also be urged on those who are more immediately the guardians of our ancient churches,—namely, the clergy. They have done great things in their generation, good and harm, mixed no doubt; but much more good than harm. To them, too, uniformity is at times a temptation. Inconveniences which would often be surmounted by patience, are sometimes grappled with at once, to the serious loss of the old historical associations of the building. A pulpit is too big, or too small, or, still worse, it is not in the fashionable style of the day. It must go, and the next time that some far-off wanderer revisits the church of his youth, all is changed, the well-remembered aspect of the place has become strange and unfamiliar. The reading-desk has vanished, the seats are re-arranged: old glass has given place to new in the windows, and the stately if cumbrous pulpit has gone, in favour of a successor redolent of varnish, and in the newest style of so-called Ecclesiastical art.

It cannot be unfair to remind all concerned, that our old buildings are held by them not as their own, but as a sacred trust; and that special tastes, and fashions, are as regards them out of place. The church belongs to the people, and it is not a fit arena for experiments, either of architecture, or of ceremonial. It should be to us, as far as possible, the sign of eternal truth, fixed, clear, and unchangeable.

We may learn a lesson, in these things, from the recent past. We know what was done by Wren at Westminster, and by Wyatt at Salisbury, with the best intentions doubtless, and as was probably thought, at the time, with considerable success. These were but types of what was going on, in the country generally. What is thought of it now? The present objections to restoration owe much of their force to the active dislike which has been shown to such operations. Are we sure that the time may not soon arrive, when many restorations, now extolled, will not be condemned in their turn? We may, at least, learn modesty from such reflections, and may cast in our lot with all true lovers of art, in wishing to confine our restorations within the limits of common sense and necessity.

To preserve and to protect our ancient buildings is the duty of every man of culture and taste, and it can scarcely be needed to found a new society for this purpose. With its efforts, if presided over by good judgment, every architect, worthy of the name, must sympathise, and it is, I think, to be regretted, that the society should have seemed to give any encouragement to the contrary conclusion.

We have seen, however, how difficult is the position of the architect who is called upon to deal with the question of restoration. He is not the master, and cannot control the variations of public feeling. The influence of a great national movement is not to be hampered or defied. If we have mistakes to deplore, we have also successes to chronicle, and at no time in the history of our art have conservative sentiments been so powerful, as they now are, among our best architects.

Irresponsible critics have always an easy task: to them all is simple, and straightforward, and they neither know nor care for the anxieties of the architect, who is called upon to act while they are talking. It has seemed to be impossible to advocate the preservation of ancient buildings without assailing architects in general, and particularly some who have been most successful, and have shown both learning and judgment in their work. Their mouths are necessarily shut, but I feel bound to protest against such hasty accusations. I do so the more conveniently, because, although yielding to none in admiration of ancient Mediæval art, the caprices of professional employment have not led

me much in the direction of restoration, and I can speak, therefore, with some of the impartiality of an outsider.

Few things have been more remarkable in the history of our time than the devotion of the architects of this country to the study of the principles and practice of our ancient architecture,—a devotion unsurpassed, as I believe, in any age or country. They are the last men in the world who can fairly be denounced as ignorant innovators, in one sweeping censure; or be entitled to the name, which has been pleasantly assigned to them, of “architectural wreckers.”

It would, indeed, be strange if the English architect should be a destroyer or an iconoclast; not only is his native country rich beyond most others in all historical associations, but the very spirit of its policy has always been that of respect for antiquity. Our great monuments have ever been prized, ancient precedents have ever been followed in our legal tribunals, and at the court of our sovereigns. We celebrate anniversaries, and venerate great memories. Our Houses of Parliament observe forms, handed down to them from olden times, and our legislators are surrounded by the monuments of the great statesmen, warriors, and sages of the past.

It has not always been so elsewhere. The protection of the ancient buildings of a neighbouring country has not been so much regarded there, as it has been with us, as a labour of love. It has been more deeply tinged with that passion for newness which has ever had a powerful influence on a nation of logicians. At the French Revolution ancient things were fused, as in a crucible, fired by a fierce hatred of the traditions of a detested ancestry. Old buildings now pulled down or desecrated, old institutions destroyed, and the very names of old places, times, seasons, and days of the week, were changed for new ones.

We have never had so fierce a trial; our changes of public life have been like our changes of architecture, more peaceful and gradual. We are accustomed to add, extend, and reform, rather than destroy and invent; and our English architects have ever been foremost in the ranks of conservative restorers.

It is not inconsistent with this tradition that they should be unable to accept the position of idle observers of the decay of the great monuments left to us by our ancestors. It is their duty to look forward as well as backward, and they have to provide for the present, as well as to reflect on the past. In so doing, they do but re-echo the convictions of their countrymen, that each successive generation has its own work to perform, and that the world will not be made happier or wiser by a listless worship of the past, and yearnings for “good old times,” which can never return.

What, indeed, were these good old times? and ought we to wish them back again? We think so, perhaps, when we note the beauties of old masterpieces of art, and ask ourselves why we prefer the old to the new. It may be, however, that we are but passing through a transition, and are unduly impatient for its close. We see the evils around us, and fancy they are new. The past has been well compared to some vast mirage in an Eastern desert. The spot on which we stand is, in our eyes, parched and bare; a dry and thirsty sand; while around us, on all sides, over the past as well as towards the future, we see an indication, and a promise of wells and pasture, of green turf, and refreshing waters. We refuse, as pilgrims, to be contented: our present position is intolerable. All about us seems so mean, so uninteresting, so inartistic, that we rush forward, or retrace hastily our steps, only to find the mirage ever retreating before us,—a mockery, a delusion, and a sham.

If there be anything in architecture that is worthy of the attention of earnest men, it cannot be that we are to look only to the past. We are bound to revere its memories,

to sustain its glories, to protect its achievements. Its old buildings must be very dear to us; but we must still look forward.

The doctrine of modern degeneracy is not to be silently accepted. It has been well said, “If the golden age be past, it was not genuine.” Were it otherwise, our energies would be paralysed at the outset of our career. National progress assumes, it may be, forms which are new and artistically distasteful to us, and we, perhaps hastily, assume that all is wrong, and that we must try,—alas! how unavailingly,—to go back to that past which is gone for ever. Rather should we conclude that we have to seek in our own day the key to the enigma, and apply to the material progress which goes on around us, the refining and civilising influence of art.

We cannot go back, we cannot re-create the old buildings, which we possess as our birthright. They often tell us of a state of affairs without counterpart in these modern days. These things were not of necessity better than the things of to-day, but they are our inheritance, to be guarded and preserved. They are, however, not to be recalled. Change passes on all things, and that which is appropriate to-day, may have become obsolete to-morrow.

We cannot look back too lovingly when we are engaged in restoring an ancient building, but for the work of to-day a mere retrospect will not suffice. It is worse than useless to spend our lives in dreams of a beautiful past, when our best exertions are needed to overcome the new and special difficulties of our own times.

Let us now consider the position at which we have arrived, in respect of restoration of ancient architecture. I have spoken to little purpose, if it be not evident to you that the question is not an easy one; and that the architect is by no means wholly responsible for its solution. This depends on serious considerations, which I have attempted to indicate, and on deep feelings in the hearts of men.

The architect, as a practical artist, has to take into account much that may be disregarded by the enthusiastic archæologist. He must use common sense in the application of his art; for architecture is for use, as well as for æsthetic enjoyment. His art, in fact, must be useful, if his art is to be used. In his works of necessary restoration, he must face many difficulties, and combat rival theories. When cases of doubtful authenticity are placed before him, he must know how to choose the good, and reject the bad. He must unite the sympathies of an artist with the needful services of the practical reconstructor. In so doing, he will distrust all dicta of fashionable taste, he will respect historical associations, and will think little of self.

You will say there is nothing new in all this. Even so. It is the same old story, since the world began. “To refuse the evil, and to choose the good,” this is the duty of man, and the architect must apply it to his art, as well as to his course of daily life.

It is impossible to lay down any fixed rules with respect to the restoration of ancient buildings. There is no royal road to the conclusion of the matter, which must be dependent on the learning, taste, and discretion of those employed.

Long before any special society was thought of, the Royal Institute of British Architects had fully considered the questions now raised, as if for the first time; and they drew up a paper of admirable rules to be observed, as far as practicable, in all restorations of old buildings. I cannot do better than advise those who are concerned in such works to obtain these rules, and to be guided by them. They will at least prove to all, whether within or without the profession, that an affectionate regard for our old Mediæval architecture has never ceased to be a ruling principle in the representative body of British architects.

And now it is time to conclude. We accept in all sincerity the protests against

\* By Professor E. M. Barry. Delivered at the Royal Academy, London.

over-restoration, to which allusion has been made. We are glad to welcome as assistants in our labour of love any associations of earnest men, while deprecating extravagance of cliquism to which such associations are perhaps in some degree exposed. We value the past too much to deface its records, to tamper with its history, which belongs to the future, as well as to ourselves. For the rest, we must refuse to be bound too rigidly, and in new works we are not to try for an impossible resuscitation, but are to have some confidence in ourselves.

We are not to be for ever attempting to try back, when the difficulties of modern problems assail us. We are to preserve our ancient buildings, as far as this may be done, without harm to the living, and without necessarily believing that such buildings would be suitable if accurately reproduced, to the exigencies of society around us, which differs in essential particulars from that of the Middle Ages.

We are not called on to despair of art because the old is often better than the new. We will not forget the past, but we will do our best in the present, and also turn our eyes on the future. If the dead can speak to us, can we do nothing that shall be eloquent when we are gone? Shall it be said of us, that we have only repaired the tombs of the Prophets? May we not rather draw from our studies of the past, a fresh inspiration,—an encouragement to new efforts of noble and elevating art? Surely there must be scope for such exertions, both now and in the days to come. In the meantime, we must hold fast to what we have, while we must oppose the calm conclusions of common sense to the bidding of those, who, making of the past fetters too heavy to be borne, would have us stereotype each antiquated blemish, by reason only of its actual existence. We must not forget the living in our zeal for the dead, and we must uphold, repair, and, where necessary, restore our ancient architecture, in a spirit of conservative jealousy of unnecessary change; while to the mere materialist, who, eager for novelty, and caring only for the present, is ever ready to revolutionise, with the vulgarity of newness, we may then fairly say, "I will not give the inheritance of my fathers unto thee."

(To be continued.)

## THE EGYPTIAN OBELISK.\*

*Origin of the Obelisk—Sun-worship—How Quarried—Obelisks at Nineveh, Constantinople, and Arles—Luxor and Alexandria—Cleopatra's Needle a Misnomer—Derivation of the Name—The Place de la Concorde, Paris—Removal from Egypt of Obelisks by the Roman Emperors—Destruction of during the Dark Ages—Restoration by the Popes—The Vatican Obelisk—Present Obelisks of Rome—Assyrian Obelisks—Obelisks at Azum, Abyssinia.*

SOME learning and research have been expended in the endeavour to ascertain the origin of the Egyptian obelisk, but it must be apparent that the natural tendencies of mankind, from the earliest periods, even in semi-civilization, were directed to mark some particular spot, the scene of a remarkable event, or to commemorate the actions of an individual by some durable memorial; and what could more easily suggest itself than the placing in an upright position of a single stone of unusual size? We have records of this in Scripture history. The Egyptians improved upon this practice, and brought it to great perfection, working their tapered monoliths of stupendous dimensions at incalculable cost and labour; and although partly commemorative monuments, a far higher, holier, and more important significance was attached to them. Pliny tells us they were dedicated to the sun, the oldest and most favoured of Egyptian divinities, and that they were their earliest idols as representing, by their pyramidal form, the gradually expanding rays of light propelled to the earth by the great centre of our system.

A curious inquiry suggests itself when we consider how these blocks have been quarried.

Modern history tells us how the Hindoo natives of India, in 1805, raised from its quarry bed the great obelisk of Seringapatam. The surface of the stone was prepared on three sides, and then a groove of about 2 in. wide, and somewhat deeper was chiselled out along the whole length of line on the fourth, where it was intended to separate the stone. A fire being lighted from end to end, when sufficiently heated, cold water was poured into the groove and thus caused a clear fracture, without further labour. But with regard to the Egyptian mode, Mr. Basil Henry Cooper, in a paper recently read before the Society of Arts, London, has perhaps sufficiently explained it. He states that at Assuan an unfinished obelisk still lies in its original bed in an unfinished state, and that the stone is between 30 and 40 yards long. We will give his own description:—"The form of the obelisk, it seems, was first roughly outlined by cutting longitudinal gashes in the granite rock. Three of the sides were then pared into shape and polished, while the fourth was left still clinging to its native bed. To detach the shaft in its entirety, deep grooves were cut lengthways, underneath—into which were squeezed wooden wedges; these wedges being moistened swelled, thus loosening the stone. On drying they were squeezed further in, and again wetted, and this process being often repeated, split the granite at last, without any shock in the direction wanted." It is a question whether the Hindoo method is not preferable to this; at all events theirs must have been much more rapid in its operation.

The number of obelisks in Egypt must at one time have been very considerable; many now remaining are no longer standing; in some places several are found embedded in the same spot. We read of two being carried away from Thebes to Nineveh upon the occasion of the Assyrian invasion of Egypt, B.C. 1364. At a much later date several were brought to Rome, one to Arles, in the south of France, and one to Constantinople, said to be erected by the Emperor Theodosius.

Arles was early known in history as a Roman colony. The remains of temples, an aqueduct, a palace, an amphitheatre larger than the one at Nîmes, an ancient pagan cemetery, called the Campus Elysium, sufficiently proclaim this. An obelisk now decorates one of the squares adjacent to the town-hall, but its history is not well understood; it is exactly similar to those brought to Rome, but it appears never to have been erected during Roman rule. For many ages it lay buried in the garden of a private individual, but was unearthed in 1389, and in 1675 was erected under the auspices of the town council upon a handsome pedestal in its present position. The monolith is 55 ft. high, and rests upon four lions couchant at the angles.

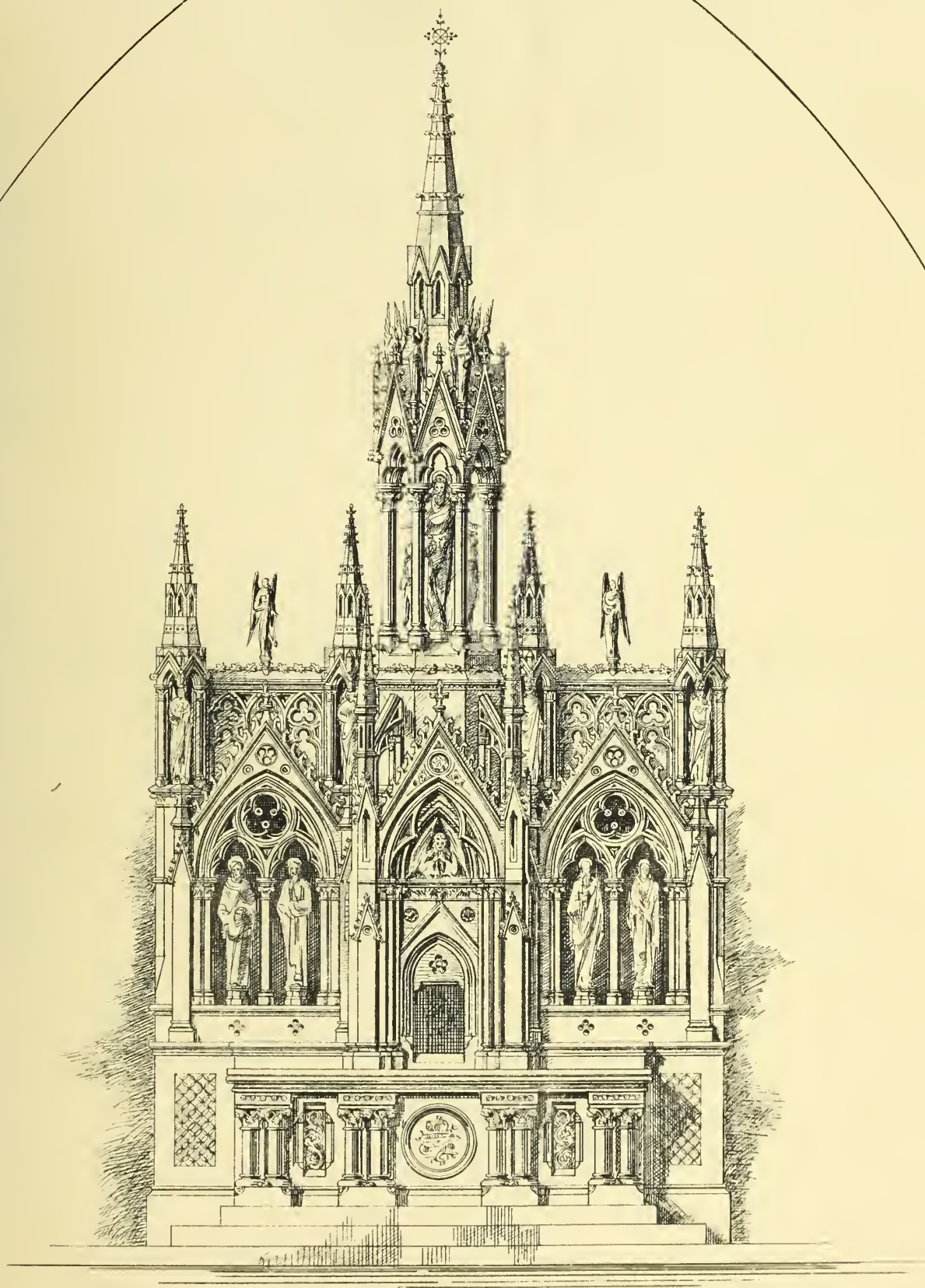
The Egyptians always erected their obelisks in pairs. Considerably more than three thousand years ago two stood before the Temple of Thebes, the modern Luxor; one still remains, the other is in Paris. Two others stood in the same region, called Cleopatra's Needles, one of which is now in London. Laved on one side by the blue waters of the Mediterranean, on the other by the Marcotic lake—is that city founded by Alexander the Great, still bearing his name (Alexandria), and which was at one time the rival of Imperial Rome in population and first of commercial importance in the world—here the obelisks called "Cleopatra's Needles" stood before the portals of the Temple or Palace of Cæsar; one is still standing, the other before its removal lay on the ground near it, partly embedded in the accumulated sands of centuries. The whole height of the one erect is about 79 ft., including the pedestal and the three steps upon which it rests, all of which are covered with earth. It is believed they were removed from the sacred city of Heliopolis in the time the Ptolemies were embellishing Alexandria with all the spoils they could plunder from the ancient cities of Egypt, to enrich the most favoured daughter of Rome. The name

"Cleopatra's Needles" is a misnomer, as these are the two obelisks interpreted by their own hieroglyphics as being of the time of Thothmes III., who reigned 1500 years before Cleopatra existed. Why they are called "needles" demands perhaps some explanation. The Greek word "obeliscus" (*ὀβελίσκος*), from which their name is derived, signifies a skewer or needle; but whether the English translation is an improvement upon their original name is questionable.

In the year 1820, Mahommed Ali, then Pasha of Egypt, offered one of either of these obelisks to our George IV., the other to the French Government, as a token of gratitude for various services rendered him. About this period it was resolved to lay out and embellish the Place de la Concorde, Paris—that blood-stained square (then waste ground) where the worst horrors of the Reign of Terror were enacted, where Louis XVI. and Marie Antoinette perished, and where more than three thousand victims were immolated under the knife of the guillotine. It was therefore proposed to erect a fountain upon the spot where the scaffold had stood; but this was strenuously and successfully opposed by Chateaubriand, who not inaptly remarked that all the waters of the ocean would not suffice to obliterate the mementos of blood which the Place had witnessed. A little later on, in 1830, during the reign of Louis Philippe, the Government of France, anxious to adorn the square, but with a monument which would have no political significance, gladly availed themselves of the permission already obtained to remove their obelisk. Fortunately for the French capital, they selected the most beautiful and perfect of the two; and in five years afterwards—in 1836—the elevation and completion of this beautiful relic of antiquity in its present position was successfully accomplished. The means employed for its removal, embarkation, and erection are shown in bas-relief on two sides of the pedestal upon which it stands. The height of the monolith is 76 ft.; with the pedestal and steps upon which it rests, the entire is 105 ft. In spite of the opinion of Chateaubriand, two magnificent fountains stand at some distance at either side; and when in full play the exquisite sculpture which forms their surroundings, dripping with pearly drops and seen through every variety of prismatic colour in the sheets of spray which envelop them, form an exquisite *coup d'œil*. The Garden of the Tuileries in front, the long vista of the Champs de Elysées behind, with the Arc de Triomphe in the distance, the Pont de la Concorde, and the River Seine, with the gilded dome of The Invalides on one side, and the magnificent buildings which terminate the Rue de Rivoli on the other—all combine to render the site of the obelisk perhaps the most attractive in any European capital. The stone itself is inscribed with three well-defined rows of hieroglyphics, recording the deeds of King Ramases II., better known in history as Sesostris the Great, who reigned about 1,500 years before the Christian era; it is therefore now nearly 4,000 years old.

Who has stood in recent times unconsciously upon the ground which was the scene of the sanguinary orgies and saturnalia of the French revolution, and is not entranced with the blaze of beauty which meets the eye? The French people have a happy knack of rendering even death attractive, shown by the way (even amongst the poorest) they are unceasingly decorating with *immortelles* and fresh flowers the abiding places of those who have gone before them, resting as they are amid beautiful vistas of flowering shrubs and gorgeously-tinted and sweet-scented masses of lesser growth in profusion of bloom. There is an amount of romance in all this, and more particularly when we look upon the votive offerings even to this day hung upon the newly restored and re-decorated tomb of the wretched Abelard and his victim Heloise, which could not be realized in any other country. Perhaps it is to efface the recollection of guilt and not to encourage it that such things are done; and it may be in this

\* Written for the IRISH BUILDER by William Hughes, author of "Geological Notes of Ireland," &c., &c.



·DESIGN FOR MEMORIAL ALTAR·

*John S. Pym  
Arch.  
& Sculptor  
Nov. 17. 1877*

THE LIBRARY  
OF THE  
UNIVERSITY OF ILLINOIS

instance it is to obliterate for ever the memories of the thousands of mutilated victims which were dragged away to the fosse commune, that the French people have thus adopted the idea of making the Place de la Concorde one of the most attractive scenes in their capital.

The second obelisk, through the apathy of our rulers, has long lain embedded in the sands of Alexandria; but private energy and munificence has at length brought it to the English metropolis, where before long we may hope to see it forming one of its most interesting and attractive embellishments.

Rome in her palmiest day, in the zenith of her power, the days of her emperors, when her giant roots were striking deep in many a foreign soil, yet though carefully nurtured by myriads of legions, were but for a comparatively short period acclimatised in the sands of Libya, yet sufficiently long to despoil it of art treasures,—thus she transported from Egypt several of these relics of antiquity (for even at this period they were then old), and erected them in her own capital; but during the calamities which befel the city under its barbaric invaders, the obelisks were damaged or overthrown, some of them broken in two or three places, and thus they remained for a long and dreary period, until at length they were restored and re-erected by the different popes from Sixtus V. to Pius VII.; and it is not at all improbable, from the accumulated *débris* of ages which half bury some of the ancient temples, more may yet be recovered.

The most beautiful and most remarkable of these monuments is that of the Vatican, of which Madame De Stael has, in her own impressive and eloquent language, expressed the feelings with which the tourist surveys it and its accompaniments, the magnificent fountains of St. Peter's, which now rise in the centre of the space formed by the colonnades of that church. Being in French, it would be injustice to translate it here; we, therefore, refer our readers to the original. This obelisk is one of the two mentioned by Herodotus as being erected by Phero the son of Sesostris on his recovery from blindness; and there is a story told that, so great was the anxiety of that monarch for its successful elevation, that he caused his own son to be fastened to the top, in order to render the engineers more careful during the operation. It was brought to Rome by Caligula, and erected in the circus bearing his name, but afterwards called the Circus of Nero, and dedicated to Augustus and Tiberius, as an inscription on its pedestal still shews. It owes its present position to Pope Sixtus V., who, in 1586, directed its removal to where it now stands. The anxiety of the pope for its being erected uninjured appears to have nearly equalled that of Phero, and it is said he issued a mandate that during the progress of the work no one should speak, under the penalty of death. A member of a noble family, who was intently watching the operation, saw with dismay some of the ropes on the point of becoming ignited through friction; disregarding the pope's command, he loudly called attention to the fact; but Sixtus, who immediately comprehended the danger, stepped between the Papal Guards, who were on the point of arresting the delinquent, and, instead of punishing him, rewarded him with an appointment, which, it is said, still continues in the (Bresca) family. There is a painting in the Vatican representing the erection of the obelisk, and the attempted arrest of the nobleman. The height of this monolith is 82 ft., but, with pedestal and plinths, and including the ornaments and cross on its summit, the entire reaches 132 ft. It has no hieroglyphics, and is still perfect.

It may appear questionable taste to include a relic of pagan worship in the adornment of the façade of a christian temple; but if this be an error of judgment it is amply compensated for by the emblem of our faith, now rising triumphantly and majestically over its apex, thus considerably increasing its altitude; yet a greater anomalism exists in

many of our own churches, where we see the cinerary urn, an emblem of paganism, surmounting christian monuments.

To give a descriptive account of the numerous obelisks of Rome would exceed our limits, besides none of them are accompanied by the magnificent surroundings which encompass the one called the Vatican, or that of the Luxor at Paris. We will therefore merely state their dimensions, and under whose pontificate they were re-erected. Although we have called them monoliths, it will be perceived some of them are no longer so, being broken in two or more places, and that the one standing before the Church of St. John Lateran, if entire, would be the largest known monolith in the world:—

| Name of Monolith.                                  | Height. | By whom Erected. | Year. |
|--|---------|------------------|-------|
|  | ft. in. |                  |       |
| SANTA MARIA MAGGIORE—<br>Monolith .. .. .          | 48 6    | Sixtus V.        | 1587  |
| With base, ornaments, & cross                      | 84 0    |                  |       |
| Broken in 3 or more places.<br>(No hieroglyphics.) |         |                  |       |
| ST. JOHN LATERAN—<br>Monolith .. .. .              | 106 0   | Sixtus V.        | 1588  |
| With base, &c. .. ..                               | 150 0   |                  |       |
| Broken in 2 places.<br>(No hieroglyphics.)         |         |                  |       |
| FLAMINIO DEL POPOLO—<br>Monolith .. .. .           | 78 6    | Sixtus V.        | 1589  |
| With base, &c. .. ..                               | 116 0   |                  |       |
| Broken in 3 places.<br>(With hieroglyphics.)       |         |                  |       |
| PIAZZA NAVONA—<br>Monolith .. .. .                 | 54 3    | Innocent X.      | 1651  |
| With base, &c. .. ..                               | 90 0    |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |
| MINERVA—<br>Monolith .. .. .                       | 17 0    | Alexander VII.   | 1667  |
| With base, &c. .. ..                               | 39 6    |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |
| MARTELLA DELLA ROTUNDA—<br>Monolith .. .. .        | 20 0    | Clement XI.      | 1711  |
| With base, &c. .. ..                               | 43 0    |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |
| QUIRINALE DE MONTE CAVALLO<br>Monolith .. .. .     | 47 8    | Pius VI.         | 1785  |
| With base, &c. .. ..                               | 95 0    |                  |       |
| Broken in 2 or 3 places.<br>(No hieroglyphics.)    |         |                  |       |
| SALLUSTIANO DELLA TRINITA—<br>Monolith .. .. .     | 43 6    | Pius VI.         | 1789  |
| With base .. .. .                                  | 100 0   |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |
| CAMPENSER DE MONTE CITORIA—<br>Monolith .. .. .    | 71 6    | Pius VI.         | 1792  |
| With base, &c. .. ..                               | 110 0   |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |
| AURELIANO DEL PASSEGGIATO—<br>Monolith .. .. .     | 31 0    | Pius VII.        | 1822  |
| With base, &c. .. ..                               | 56 6    |                  |       |
| Entire.<br>(With hieroglyphics.)                   |         |                  |       |

Egypt did not stand alone in the native production of monoliths in the far off ages. In the British Museum there are three Assyrian obelisks, one of them of black marble from Nimroud discovered by Mr. Layard.\* It is about 6 ft. 6 in. high, terminated by three steps or gradines, and flat at the top. On each of the four faces are five small bas-reliefs; above, below, and between these is carved an inscription 210 lines in length, and the entire is in remarkable preservation, and dates B.C. 3850. A portion of another, an earlier one, and one entire of white limestone, discovered by Mr. H. Rassam,† accompanies it; they share the advantage of their Egyptian congeners in being inscribed, but bear no comparison with them in point of workmanship, the lines being rudely drawn and carelessly finished. They do not appear to have ever been numerous, as only these three specimens have been discovered in the entire of the excavations. These obelisks, if they can be called such, though very inferior to the Egyptian, rank far above the rude Celtic monoliths found in India and elsewhere.

At Axum, in Abyssinia, there are numerous remains of these interesting relics; one of

these, still nearly perfect, and of red granite, 60 ft. high, stands upon three elevated plinths close to the town, and must arrest the attention of the traveller. It has no hieroglyphics, but is richly ornamented, and differs from those of Egypt by not terminating in an apex, but surmounted by a kind of Moorish shaped patera. What a field of thought is associated with all these undying records of a bygone time! History unveils itself and tells its story anew in the decipherment of the hieroglyphics of a remote age, and we pause and wonder at the link they have preserved to our own days, recording the deeds and works of man removed back so far into what we might possibly consider primeval time without their evidences, and our wonder becomes unceasing when we consider how they have thus defied the ravages of the destroyer Time through so many successive generations.\*

## REMARKS INTRODUCTORY TO THE STUDY OF DESIGN.†

ORNAMENTAL art may be regarded by those who desire to enter upon a comprehensive consideration of the same, as follows, viz., with a view to an elucidation of its history and development, archæologically considered—its elements; its principles; its construction; and also as to its practical aspects and applications; it may also be regarded as significant of an æsthetic or symbolic meaning and sentiment.

In entering upon this subject, we have before us a vast field of enquiry, demanding for its satisfactory exposition intelligent effort and investigation. We can only hope, within the limited time and opportunity afforded us, to grasp the more salient points of the subject, and obtain a more or less broad and general knowledge of it. It is, therefore, my wish to furnish you with a series of standpoints, or points of departure, in order that those of you who may hereafter have opportunity may be enabled to follow up independently a study so highly interesting; and I shall consider my efforts well repaid if I succeed in stimulating your curiosity, and in arousing you to enquiry as to the development of ornamental art of every period. In order to comprehend such developments aright, a knowledge of the history of the countries and people of the world from the earliest periods is desirable, and ornament must be regarded as an unerring indication of the moral and intellectual condition of the people of various ages and countries.

The origin of ornament is lost in the darkness of ages, and we must seek for its earliest manifestations amongst the prehistoric races of mankind. It is probable that the very earliest races of the earth were incapable of communicating their ideas and wants to each other only in a manner more or less imperfect, and that they had very largely to depend upon signs, gesticulations, and drawing, in order to make themselves understood. In this way, probably, what may be called pictorial writing, such as was brought to such a high perfection by the ancient Egyptians, had its origin, and all letters may be regarded as having thus originated. The numerous modifications, however, which the symbols have undergone in the course of time render it impossible to trace them back to their originals. In passing, I may throw out the suggestion that the letter S may have

\* During the last and in the commencement of the present century several imitations upon a small scale were made of the Egyptian obelisk both in England and here. There are three in London—one in Fleet-street, to the memory of the celebrated John Wilkes; and, immediately opposite, another to John Waltham, a former lord mayor; the third is at the end of Blackfriars-road, erected without an object, except to mark the distance of one mile from Fleet-street. At Stillorgan, County Dublin, there is one of considerable altitude, erected by Lady Pierce, in 1741, to give encouragement to the poor in a season of distress; and there is a hybrid variation between the obelisk and the pyramid in the Phoenix Park, Dublin, 202 ft. high, being the Wellington Testimonial, and which George IV. called "an overgrown milestone," and which, for unsightliness, will favourably compare with the last resting-place of King Cheops.

† By R. E. Lyne, Head Master of the Metropolitan School of Art, Leinster House, Kildare-street.

\* Layard's "Nineveh and its Remains," p. 244.

† Layard's "Nineveh and Babylon," Int. xxii.

been derived from the serpent, and the sound of the letter itself may be said to suggest the hissing of that reptile. The letter C may have been the symbol for the crescent moon, whilst O may have symbolised the sun or full moon, or both. Whilst on this subject it may be interesting to refer to the discovery, thirteen centuries ago, by Cosmas, a merchant of Alexandria, of the rock inscriptions of Sinai: the characters of such being unknown, were by some assigned to the age of Moses and the Exodus; throughout this uninhabited wilderness, upon the rocks, were found, intermingled with the inscriptions, images and figures, executed in a rude style, and representing camels and men, indicating by their execution a period when early races first began to inscribe their abiding memorials. It is very probable that these inscriptions and pictorial writings of Sinai are of Israelitish authorship, executed posterior to the sojourn in Egypt.

Pliny, who regarded alphabetic characters as coeval with time, and, consequently, as co-existent with mankind, has recorded his opinion that Assyria was their birthplace. Until a comparatively recent period Assyrian characters were but little known. In the seventeenth century Sir John Chardin brought home a specimen or two. The strangeness of the Assyrian characters, it would appear, effectually repelled investigation. They have been described as nail-headed, key-headed, and wedge-shaped or arrow-headed, from supposed resemblance to those implements or imagined derivation from them. In the year 1802 the first serious attempt was made to decipher them, by Professor Grotefend, of Halle, in Germany.

I may also direct your attention to the ancient monuments of the Mississippi valley, to the altar or sacrificial mounds, sepulchral mounds, temple mounds, &c., and to the numerous highly-interesting objects of early art discovered therein, an examination of which is calculated to prove useful to the student of ornamental art; and I may also refer to the pictorial inscriptions, &c., upon the rocks bordering upon this valley.

Through long successions of time, man, being unable to write, had no alternative in communicating—especially with those distant—but by drawing, painting, and pictorial signs. Those early and tentative efforts were doubtless of the rudest description; but from such coarse attempts, limited at first to the rendering of forms connected with his most urgent requirements, he would enter by degrees upon the range of universal nature obvious to his view. We may fairly judge what lengths may be reached in such a direction by man when shut out from foreign intercourse, with nature only for his instructor. The natives of South America, until discovered by the Spaniards, were doubtless self-taught. The Mexicans sent intelligence, when invaded by the Spaniards, to Montezuma, their king, by paintings, in which were represented on cotton cloth the figures of the invaders and their belongings. To such an extent had these Mexicans progressed in the art of pictorial writing that a book of figures, constituting in reality a book of their letters, was given to Cortes by Montezuma. In such productions we have proof that talent for pictorial representation belongs to man in a state of nature. It may by research be discovered in all countries as the first beginning of the finer arts and of written language. Like the Mexicans the Phœnicians seem originally to have known no other method; and the old Ethiopians, whom Diodorus Siculus supposes to have been the most ancient of people, wrote, he says, in the same manner. The characters of the modern Chinese are doubtless due to a similar origin; and the same form of pictorial expression originally prevailed amongst the Greeks, in proof of which assertion it may be remarked that in their language to paint and to write are both expressed by the same word.

As highly interesting specimens of ornamental of remote ages, I may refer to architectural temple remains in the Island of

Gozo, near Malta, and at Crendi, Malta. A dotted ornamentation appears to have prevailed, to which some peculiar symbolic meaning was probably attached. At Crendi, on a stone altar is represented a tree of very conventional arrangement, resembling a palm, and which is suggestive of some of the earlier representations of the Assyrian sacred tree; and an ornamental volute is characteristic. These works are attributed to a colony of Phœnicians.

In a series of stone graves in the district of Uelzeng, in Hanover, have been found bronze ornaments of considerable interest. These bronze ornaments are remarkably elegant, and have a strong Greek character. The wave scroll, the zig-zag and decoration by dots and circles are conspicuous.

It is instructive to examine and compare the ornament of urns and vases of very early periods which have, from time to time, been discovered in England, Ireland, and Scotland. They have much in common, and bear a striking resemblance to each other. The decoration is chiefly by circular bands dividing off the quantities, and by straight lines variously disposed. Such Irish pottery is especially distinguished by grace of outline. I may direct your attention to specimens contained in the Royal Irish Academy; and amongst others to one found near a cromlech in the Phoenix Park, Dublin. It is only 6 in. high, and with it were found a bone hair-pin and shell neck-lace, which appear to denote a remote antiquity, and other urns, &c., were also discovered. It is to be remarked that handles are very uncommon in early British pottery.

The peculiar character due to ornament dependent chiefly upon circles and straight lines is seen also in the very remarkable collection of gold ornaments contained in the Royal Irish Academy, and which might be consulted by ornamentists, for simple motives in decoration, with great advantage.

Spiral and other marks on rocks and stone graves which have been found in Ireland, Scotland, and Brittany, and also in Northumberland, are worthy of attention. Sir J. Simpson, of Edinburgh, has very ably written upon and described them. It would appear that they have had an ornamental intention, having a symbolic meaning in some way connected with the worship of the heavenly bodies.

The art of the ornamentist may be considered from two points of view—first, as to its relation to what is called fine art, and also its connexion with art purely mechanical. It may be said to be essentially distinguished from fine art, properly so called,—the fine arts, as they do, dealing with moral expression, and, being mainly confined to realistic expression; in these respects, therefore differing from ornamental art, which may be said to have for its leading principle conventionalism, since a consistent adaptation of nature to the various requirements of material necessitates, more or less largely, some re-arrangement of nature on a scientific basis. Doubtless, in the highest developments, whether of pure or of decorative art, beauty should be the end in view; in the former case, however, the beauty of nature, as visible to the eye, is aimed at, whilst in ornamental art beauty of an abstract kind becomes the object of pursuit,—in short, a beauty separable from natural objects, and bearing the cosmetic stamp of nature only. The work of the ornamentist is the elaboration of construction, and the emphasising of the salient points, so as to envelope in a coating of beauty the harsher features of construction, and to surround with an atmosphere of grace the crudities and skeleton forms of a barren or harsh and uninteresting utility.

It is desirable that we should by study become well acquainted with the results of the labours of successive races of ornamentists in this direction. This is really the first step necessary on the part of the student—a knowledge of the conventional language of the art; and he should become acquainted with all the various styles which have suc-

cessively flourished in this and other countries along with the essential characteristics of the architecture of the various periods. He should also acquire a familiarity with the terms of the component parts in every description of edifice. In order to arrive at a just conclusion respecting the arts of a people, something more than a knowledge of the subject immediately under consideration is necessary. The highly intelligent student will endeavour to penetrate the particular conditions—social, political, and religious—which influenced the development of the art he studies. The climate, the physical configuration of the country which witnessed its growth, must also enter more or less into a consistent or comprehensive consideration of the productions of any epoch, along with an effort to penetrate the course of thought and motives which animated the inventors of the various periods.

The selection for study and consideration of the most prominent types in styles having historic sequence, and in which certain general laws are evident, tends, when carried on side by side with the examination of vegetable growth, its structure and arrangement, to assist the mind when aiming at original and appropriate productions of an ornamental character. It is to be regretted that the study of the remains of the past and of the various styles of preceding ages should occupy attention with no higher aim than with a view to the reproduction of old types and ancient instances. There are few periods of history of which the productions and remains are not at the present day the object of research. Their study has become a national want. The investigations of the great historic epochs, and the chronological succession of progress, of transition, and decadence, and the comparison of the productions of skilled industry of various periods by different races of mankind, furnish to us lessons the most valuable. To those having leisure for a wide examination of the subject, an enquiry, not only into the regularly acknowledged series of historic styles, but also into the remains of prehistoric times, and also of modern savage life, will tend to a more complete elucidation of ornamental art.

In our own day the introduction of steam power and increased mechanical production has led to changes sudden and continual in every department of industry. This rapidity of production, as compared with the slower and more fully considered artistic handwork of former periods, demands, in order to obtain higher artistic results than are at present generally obtained, that a more intimate relation should exist between the artist and the producer. When mechanical operations shall have so far improved, as to enable machinery to do the bidding of the artist with increased effect, new phases of development will succeed, resulting in an application of a purer art in connection with such industry, and which may be characterised both by beauty and economy. Art in contact with industry enhances the value ten, twenty, a thousand fold; and an object of small intrinsic value, by the intervention of art, becomes an object the most precious—not so much from the amount of embellishment as by the propriety and consistency of its application, at one time being applied with munificence, at another with discreet economy.

It is most desirable that ornamental art, at once pure, original, and applicable to the requirements of the common objects in use amongst the masses of the population, should be more generally diffused throughout the country. In order to arrive at so desirable a consummation, a dissemination of more extended views of art, as a humanising moral and educational agent, and a higher comprehension of its legitimate aims and objects, is necessary. False and limited views and desultory study must be abandoned in favour of a more just practice, more well-directed inquiry, and a more philosophic investigation. In examining the styles of the past, it should be our object to extract from them those

lessons applicable to modern conditions, and to deduce the principles which underlie them.

If our modern productions in which industry associated with art are to approach to the perfection of the great productions of earlier times, we must devote ourselves more largely to the study of the remains of the past, and become acquainted with the merits, beauties, and peculiarities of the works of the ornamentists of a past period. The mind of man being everywhere impressed with nature's work and beauty, seeks to imprint them upon the productions of his own hands, and this is done with greater or less success according to the power of his intelligence. Strong minds working in this direction succeed in giving to the works of their period those characteristics and that expression which constitute a style, and which in the course of time are regarded as examples and authorities in the practice of succeeding ages; and such peculiarities being the reflex originally of existing and surrounding conditions and of individual idiosyncrasy, become in the course of time national peculiarities of expression, and are perpetuated in a manner more or less traditional.

#### NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

##### EIGHTEENTH PART.

WE had intended to treat at some length on newspaper printing and publishing enterprise in the present century as well as in the last, and give some short sketches of a few of the most prominent characters, literary and public men, associated therewith.

We find to enter upon the subject would far exceed our limits. There are, however, a few old established newspapers, like *Saunders's News-Letter*, the late *Dublin Evening Post*, and the *Freeman's Journal*, dating far back into the eighteenth century, which deserve a passing notice. Of *Saunders* we have already given a short epitome. Of *Evening Posts* in Dublin we have had during a century and a-half several series, some being successors in reality of preceding ones, and others not. The first number of the regular series of the *Dublin Evening Post* was published on June 10th, 1732, by S. Powell, already mentioned, in Crane-lane, and this continued till 1756. This paper was succeeded by one bearing the same name, published by McNeillagh, of Skinner's-row (now Christ Church-place). Another issue of it was by T. H. Powell in 1788, which lasted till 1800. *Enpassant*, Sir Jas. Ware's works, edited by Walter Harris, were printed at S. Powell's press in Crane-lane in 1744, in two volumes folio. The two most noted newspaper editors and proprietors connected with the *Dublin Evening Post*, from near the close of the eighteenth century till the middle (or somewhat later) of the present century, were John Magee and Frederick William Conway. John Magee was certainly an eccentric character, and he is credited with originating the riots that took place in Crow-street Theatre about 1789-90. Paragraphs were continually inserted in Magee's paper injurious to the character of Daly, the patentee, whom he represented as a gambler in necessitous circumstances, guilty of frauds and using dishonest artifices to obtain money. In reference to this affair, Mr. Gilbert, in his "History of Dublin," writes:—"In consequence of these representations, any actor whom Daly sought to engage demanded enormous payment as compensation for running the risk of being libelled by Magee, and also required a considerable portion of the sum agreed for to be paid in advance. From the commencement of the publication of Magee's attacks a number of disorderly ruffians, armed with bludgeons, came into the gallery immediately on the opening of the doors and interrupted the performance by shouting, 'A clap for Magee, the man for Ireland; a groan for the Sham,' the *sobri-*

*quet* of Daly's confederate, Francis Higgins, the proprietor of the *Freeman's Journal*. 'A groan for the dasher; out with the lights! out with the lights!' The terrified audience used consequently to withdraw their money and quit the theatre. Daly, who was frequently rendered imbecile by these defamatory publications, instituted legal proceedings for libel against Magee in 1789, and obtained a verdict of £200 damages." This was not the only prosecution Magee underwent. Several years later, in the present century, a prosecution was instituted against him, which has made his name historical in Dublin newspaper annals. In 1813 John Magee was found guilty of publishing a libel in the *Dublin Evening Post* against the Duke of Richmond, the Irish Viceroy of the time, and sentenced to pay a fine of £500, to be imprisoned two years, and find sureties for his conduct for seven years in £1,000 for himself and two in £500. By a novel application of a temporary act, Magee's paper was suppressed for a time by the disallowance of further stamps. Magee died on September 2, 1822, at Ashford, County Wicklow. Much could be written of his career, acts, and associates; but we are not writing biographies. Though a popular hero betimes, he was suspected and accused of not acting always in an open and honourable manner in important public questions, in which his influence on either side would be of an importance.

Frederick William Conway, whose journalistic career in connection with the *Weekly Messenger*, *Freeman's Journal*, and finally with the *Dublin Evening Post*, from the early years of the present century till past its middle, is a very difficult character to describe. He was a compound of bad and good, many sided, many opinioned, time serving, and constantly changing, yet withal he exercised a large amount of influence as a journalist, and was trusted betimes by the Catholic priesthood and people, and denounced anon as a "Castle Hack." During the first decade of the present century, and for a portion of the second, Conway formed a constant target for the pen of Watty Cox and his co-labourers in the *Irish Magazine*. He was ridiculed and gibbeted by the famous magazine in all forms of satire and abuse, in prose and rhyme, his parentage traced, his alleged tricks and lies exposed, his face and form, and habits, and manners sketched and illustrated, and his double dealing and anonymous writings in different channels unearthed and exposed. Cox took delight during the Veto period in constantly and persistently attacking Conway and goading him to madness, and sometimes the newspaper editor retaliated in a pungent manner. Any one interested, and wishing a surfeit of the personalities and political animosities that characterised the newspaper warfare of the time, as between Cox and Conway and others, in the contemporary Dublin newspapers will find ample materials alone in the *Irish Magazine*, particularly in the years 1810-11. Cox was in the habit of designating Conway by various *sobriquets*, but particularly "Con, the Daggerman," "Con Catspaw," "Little Con." In 1807, Conway was prosecuted for libelling one Dwyer, an actor, in the *Messenger*, and he was fined £200. Of this affair and other matters in connection in regard to Miss Walstein, a celebrated actress at Crow-street Theatre, Cox utilised with merciless severity, and for a long time continued to brand Conway as the "Daggerman," and the cowardly assassin of female character. A very severe letter was published by Cox in 1810, in the *Evening Herald*, addressed "To Frederick William Conway, editor of the *Freeman's Journal* and *Weekly Messenger*," which letter was re-produced in the *Irish Magazine*. Conway accused Cox in the *Weekly Messenger* of being an assassin and author of the *Union Star*. The authorship of the *Union Star*, of course, was previously acknowledged by Cox, who surrendered to the Government, but only to outwit the authorities, for he knew he was likely to be detected by a large reward being offered. Cox defended with ability his

conduct in respect to the publication of the *Union Star*. Conway in the *Messenger* also accused Cox of killing a carpenter in 1797, and of other lesser crimes, but these statements were paid back with compound interest in the letter addressed to the *Evening Herald* in reply to Conway, and in articles in the *Irish Magazine* of the period. Cox was wont to bracket Conway and the Major (Sirr) together, and to allude to his connection with the Sham Squire's late journal. Here is a humorous poke in the ribs:—"After fixing his sentinels and despatching his *Messenger*, Con returns to the city to commence his literary labours on the Sham's journal; there he figures in another character since that very immaculate paper was allowed to soar into the regions of patriotism by having the ballast of £1,200 a year thrown overboard that kept it floating over the Castle. For his labours on the part of poor Higgins' farm, Con is paid three guineas a week, and no man acquits himself better for a restoration of the Constitution of 1782, Catholic Emancipation, clean footways, wide streets, and lamp lighting, and other great questions that his journal discusses in revenge for the loss of its pension." The above actions are pointed to as an instance of "Con's dexterity;" and there are other instances humorously given, but in stronger terms, of Conway's loyalty, vigilance, economy, sensibility, &c. "Con's sensibility" is thus described in 1810:—"A few days ago Con was riding with his employer and lady by Kilbarrack church-yard, where the remains of the SHAM are deposited under a magnificent tomb and splendid inscription. The party naturally stopped to pay a grateful tribute to departed worth. Con mounted the flinty covering, and after reading with impassioned energy the eulogium it bore, burst into tears, and declared upon his honour the composition was unequalled in the history of sepulchral literature."

The discovery made by Dr. Madden regarding Higgins' services to the Government in 1798, and the payment made to him in consequence of the betrayal of Lord Edward Fitzgerald, and the subsequent facts elicited and stated by Mr. W. J. Fitzpatrick in his volume on the "Sham Squire," &c., led, we believe, to the complete destruction of Higgins' tombstone in Kilbarrack church-yard. About the year 1846 the present writer visited Kilbarrack church-yard for the first time, and at that date he remembers seeing Higgins' tombstone in a complete state, with the exception of one of the lower angles, a small piece of which was broken off. The inscription was quite legible. About the same period a correspondent in the *Nation* drew public attention to the bequest of Higgins, as stated on the tombstone, and desired to know what became of the money and how it was applied. This reminiscence may not be altogether amiss in connexion with our subject.

The *Dublin Evening Post*, for several years before the middle of the present century, under the conduct of Conway, veered about often enough in opinions, and during the viceroyalty of Lord Clarendon it was accused by the National Party of being a thorough "Castle Hack." Notwithstanding, the *Post* continued to be used as a medium of Roman Catholic intelligence, and by a portion of the hierarchy, priesthood and laity it was patronised. O'Connell often utilised its columns for his letters and political manifestos. His acquaintance with, and knowledge of, Conway extended back to the commencement of the century. The *Dublin Evening Post* was printed for several years by Conway at 11 Trinity-street, and was subsequently removed to Suffolk-street soon after the erection of the houses on that front of the Royal Arcade buildings, which were destroyed by fire in 1837. In Suffolk-street the paper still continued to be published after Conways' death, but with varying fortunes; but none of the successors of Conway during recent years were able to infuse fresh blood into it. I had probably, like other old papers, seen great, ran its allotted cycle. The *Post* died quite recently a natural death under a Mr.

O'Farrell. An incident in the history of steam power in connection with Irish newspaper printing is worthy of a note here. Philip Dixon Hardy, already noticed, was the first who set up a steam printing machine in Dublin, at his works in Cecilia-street. The next steam printing machine was in connection with the *Dublin Evening Post* under Conway. These introductions were about the year 1834, about twenty years after the introduction of steam printing in connection with the *Times* newspaper, which took place in 1814. The *Times*, however, was not, as generally supposed, the first instance of steam printing in England. As early as 1811 a sheet of the *Annual Register* was printed for experiment by steam machinery.

The story of the *Freeman's Journal* is partly told in what we have stated in relation to Conway and his memories and associations. It dates back to about 1763-4, but was pioneered or preceded by the *Public Register* of Dr. Charles Lucas. Francis Higgins, already noticed, was the next conspicuous character of note associated with the proprietorship of the *Freeman*, but his career and doings and those of some of his associates will be found detailed in Dr. Madden's and Mr. Fitzpatrick's volumes. Frederick William Conway, as editor after Higgins, may be classed as the next conspicuous journalist on the *Freeman*. Some other shiftings and changings in its career take place not calling for particular detail in these pages, until the paper passed under the conduct of the late Sir John Gray (then Dr. Gray), about 1841. During the O'Connell agitation for Repeal the *Freeman* became a conspicuous paper, and by its liberalism and tolerant spirit became a mouthpiece and medium for Catholic claims, and an acknowledged organ for national aspirations. It secured the patronage of a large portion of the Catholic hierarchy and clergy, and rarely at this period ran into extremes. After the rise of the Young Ireland school of politicians, the *Freeman* stood fast by O'Connell and his party, but for a while in 1848 it had almost gone over to the Young Ireland cause. After 1848, and during the viceroyalty of the Earl of Carlisle, the *Freeman's* principles veered, and for a while it narrowly escaped a total withdrawal of its older patrons. It is not our purpose to enter minutely into "ways and means" at this period. The late Sir John Gray, if not a clever *litterateur*, he was at least a clever tactician and a useful citizen. He recovered lost ground, and long before his death he again established cordial relations with a large portion of his countrymen of all creeds, clerical and lay. As a member of the Corporation his name is associated with our improved waterworks, which he laboured zealously to promote and carry to completion, and, as a member of Parliament, he often spoke in the interests of his party with considerable effect. His death is too recent to render it necessary to enter into further details in connection with his public and journalistic career. We might have added that in 1844 the late proprietor of the *Freeman* suffered imprisonment with O'Connell and the other traversers in Richmond Penitentiary.

Trade and professional periodicals are of rather late growth in this country. Some of the earlier magazine attempts were short-lived, and, though designated philosophical and scientific, &c., on their title-pages, they were not strictly either technical, scientific, or journals of science, art, or trade; they were rather periodicals of a miscellaneous kind. Some magazines which bore "Dublin" on their title-pages were really London printed and published, though out of courtesy called "Dublin and London" magazines, or *vice versa*. The *Dublin Philosophical Journal and Scientific Review*, 1825-6, 8vo, lasted two volumes; it contained numerous plates. The *Dublin Weekly Journal, a Repository of Literature, Music, and Miscellaneous Knowledge*, small folio, 1832, expired after thirty-two issues. In 1845 a trades organ was started in this city called the *Dublin Argus*. It was announced to be under the patronage of the

Dublin trades association or bodies. It was a broadsheet of eight pages, and was well written. It was almost a semi-newspaper in character, and was disposed to chronicle news in a peculiar way of its own, until the staid authorities gave it a hint that it must desist, as it was not a newspaper. The *Dublin Argus* contained leading articles on trade subjects; and some good poetry and rhyme, with occasional tales and other miscellaneous matter, were generally given. It was edited by J. M. C. Brady, who occasionally wrote respectable poetry in its pages. Many creditable volunteer writers contributed to the *Argus* essays and poems, and several discussions on various subjects of interest were initiated and carried on by letters of correspondents in its pages. After some months certain correspondents became a little too personal in their criticisms, and the paper was not benefited. The *Argus*, nevertheless, advocated the interests of the Dublin trades with good effect for some time. Mr. Thomas Arkins, the City Sword-bearer, was fiercely assaulted in the columns of the *Argus*, which resulted in a prosecution. The suit failed through technical difficulties and other difficulties regarding the identification of the editor or securing a responsible party. After the failure of the trial the *Argus* ridiculed the plaintiff in prose and rhyme. Some artisan contributors of the *Argus* furnished excellent essays and articles on various subjects, and among them were respectable poets, who afterwards wrote in the higher class journals. "An Operative Carpenter" contributed a series of articles entitled "Thoughts on Things." If we are not mistaken, the writer's name was John Grame, and, if so, he was the author of more ambitious performances in trade, biography, and social science. James Hamilton, "the philanthropist," the author of an "Essay against Duelling," published early in the present century, and who exerted himself zealously to put down the practice, contributed some matter in prose and verse. Hamilton has been a strangely overlooked character by Irish writers, as his life and career would furnish much worth recounting. James Hamilton died at his residence, Annadale Cottage, Phillipsburgh-avenue (where he resided for many years), about twenty or twenty-five years since, leaving behind him two daughters. A cabinetmaker of the name of Frederick S. Ryan was also the contributor of some excellent letters on trade subjects; and another Dublin carpenter named Thomas Reilly was a poetic contributor. Reilly was afterwards a contributor of poetry to the national papers. Andrew Kirwan, a marble mason, brother to the late Mr. Kirwan, marble chimney-piece manufacturer, of Bolton-street, was the writer of some capital letters on Irish artists and sculptors *re* the Davis Testimonial. There were several other contributors whose names do not occur to our memory at present. The *Argus* had not entered many weeks on its second volume, which evidenced an improvement in its shape and title, when it ceased to exist. Its editor, Brady, emigrated to America, and settled down at Pittsburgh for a while, where, we heard, he edited a paper and drove his carriage.

In connection with the career of the *Argus* some humorous anecdotes might be related. The publication sometimes, owing to exigencies inseparable from many literary adventures, was sometimes behind time in its weekly issue. It was printed by O'Donohoe, in Golden-lane. The shop of the house on the street level was a chandler's establishment, kept by O'Donohoe's brother (at the corner of Chancery-lane). The paper was machined on the north side of the Liffey, consequently the "printers' devils" had often to wheel the formes in a handcart across the city. On one occasion the handcart broke down in College-green, and nearly all the matter was knocked into "pic." Type and dirt had to be gathered up as fast as the affrighted devils could gather it, and the empty formes wheeled back to Golden-lane. This was on a Saturday morning, and the proprietors had to hunt all the spare com-

positors they could get hold of. Some of the undistributed matter on the galleys of the previous week was pressed into service, and by hard work until past midnight, the paper was brought out by Sunday morning. The editorial "we" in a note excused themselves for their late appearance in a very philosophical manner. They consoled themselves with the thought that opposite the same spot in College-green where their formes broke down, just 48 years previously, the Irish Parliament met the same fate. Comparing little things with great, the excuse of the *Argus* editor was not a bad joke. Another interpretation, however, might be given why the *Argus* was so late out on that occasion, particularly when it is recollected that a large portion of the matter of the previous week was undistributed on Saturday. In a word, it is likely that pecuniary difficulties intervened to render it doubtful whether that week's publication would appear at all; but good fortune, making her appearance at the eleventh hour, supplied the "needful," and secured a longer life to the *Argus*.

Some months after the decease of the *Argus*, a somewhat similar trade publication, called the *Guardian*, was started by Cornelius Mahony in Capel-street. Mr. Mahony was for some years Secretary to the Dublin Mechanics' Institute; subsequently he opened a reading-room in Capel-street, which had but an indifferent success. The *Guardian* had no great vitality, and was not nigh as ably written or successful as its predecessor, the *Argus*. It ceased to exist in a few months.

The half century had closed before another attempt was made, about 1851, in founding a trades' organ. This periodical was called the *Tradesman's Advocate*. J. H. Greene, a journalistic writer of ability, a distant relative of Dr. Lanigan, the author of the "Ecclesiastical History of Ireland," and John Fraser (J. De Jean), a popular national poet and a cabinetmaker by trade, were the principal promoters and writers. The articles were respectable, and a series of well-written and stirring lyrics entitled, "Lays of Labour," under the *nom de plume* of J. A. C. Plane (*i.e.* Jack Plane) were contributed by Fraser. The *Advocate* proved a failure, and ceased to appear after a couple of months. Greene emigrated shortly afterwards to America, where he edited some journals, and published some works; and poor Fraser died in a little time, having experienced for some years broken health. Previously to the above noticed trade journal we do not remember any published in Dublin worthy of note, or as long lived as the *Argus*, which had entered on its second volume ere it ceased.

In 1846 a well-written literary periodical called the *Irish National Magazine and Weekly Journal of Literature, Science, and Art*, royal 8vo, was started. This periodical contained several good sketches, essays, biographies, and poems, by Irish writers of note; it was unillustrated, and published at three half-pence. It looked promising at the commencement, but it ceased with its fourteenth issue. The *Irish National Magazine* was edited by Stephen Joseph Meany, who, during the Repeal agitation, was a reporter on the *Freeman's Journal*, but afterwards took a leading part in the Young Ireland movement in 1848, as a writer and organiser, and after many vicissitudes was finally implicated in the Fenian movement. Meany wrote on the *Tribune* of Kevin Izod O'Doherty and Richard Dalton Williams (Shamrock), which was suppressed in 1848 after a few issues. Meany was also a contributor to other national journals, and suffered imprisonment for some months in 1848. Of his trials and travels at home and abroad, and his political associations since 1850, it would not become us in these papers to particularly detail. The *Irish National Magazine*, we might have added, was published by Le Messurier, Lower Abbey-street. The same house in after years under other names was the head quarters of other literary and newspaper enterprises; and

alongside and opposite other journals and publishing offices cropped up and existed during the last thirty years and upwards, of some of which we may possibly allude ere we conclude our papers.

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

THE winter season which was opened at Crow-street on the 11th of October, 1769, turned out an indifferent one, though it commenced with the Polly of the attractive Catley. The pets of the public cannot hope to remain always favourites, despite of age, and weakened powers. Actresses, perhaps, suffer more in this respect than actors, for personal beauty added to the charms of entrancing singing always secures them an applause, but advancing years is almost certain to rob them of both. In 1769 Catley indeed evidenced waning charms. She played a few nights, when indisposition prevented her for a while, obliging Mossop to come forward in Hamlet, which he played to a tolerable house, but under £100.

A Miss Ashmore's rising fame is spoken of at this period, "with every requisite of face, figure, voice, and abilities." This young actress appears to have been well received, and for several years afterwards played with success in this city. She played in quite a round of characters, beginning with Polly and Lucy in the "Beggars' Opera," and including, among others, Leonora in the "Padlock," Patty in the "Maid of the Mill," Ophelia, Portia, &c. Hitchcock was of opinion that so promising an actress as Miss Ashmore had not been seen in Ireland for a long time.

Of the other new actors that appeared on the Dublin boards during this season little need be said, as their names have not come down to us associated with any remarkable abilities. Being in possession of both theatres, Mossop presented tragedies at Crow-street, and comedies and wire rope dancing at Smock-alley. He also played by turns at each theatre, as it pleased his fancy or whim. The tragedies brought many, but the rope dancers and equilibrists were but poorly patronised. While Crow-street was bringing in between £90 and £100 during tragedy nights, the Smock-alley entertainments of wire and rope dancing only reached £40, and betimes falling as low as £20. "Tamerlane" was revived about this period by Mossop, and resulted in several good houses, and the Bajazet of the manager—one of his best characters—won him much applause. The following was the cast of the principal performers:—Tamerlane, Heaphy; Moneses, Cluch; Axalla, Bannister; Selima, Miss Glassington; Arpasia, Mrs. Fitzhenry.

An opposition was afoot, and, though in possession of two theatres, Mossop was suddenly startled from his fond day-dreaming of perfect security. There was a little theatre in Capel-street, which for many years was closed or appropriated to other purposes, and this little house was destined shortly to play a prominent part in the annals of theatrical opposition in Dublin. The little theatre was taken and fitted up, the principal promoters of the new company being Dawson, Mahon, and Wilkes; the former becoming the manager. Dawson certainly had some years' experience, and proved himself equal to the task he undertook. A contemporary actor and stage manager who knew him, writes:—"He was active, industrious, and intelligent, well acquainted with the world, and prompt to improve every opportunity fortune threw in his way."

The Capel-street house, though very small, proved advantageous in this respect to the management, for it took less money to fit it up, and as it could be more easily filled, a full house spelled a certain success in the public eyes. The little theatre, we read, was "elegantly ornamented and beautified;

the scenes new, painted by Jolly. The wardrobe, as might be expected, light, but fashionable and showy."

The preparations being completed and the engagements made, the little Capel-street house opened on Monday, February 26th, 1770, with a new comedy by Hugh Kelly, not previously performed in this kingdom. Here is a copy of the playbill:—

| FALSE DELICACY,  |                |  |  |
|--|----------------|--|--|
| Represented in the following manner:—                      |                |  |  |
| COLONEL RIVERS .. ..                                       | Mr. Mahon,     |  |  |
| From the Theatre Royal, Covent Garden.                     |                |  |  |
| CICIL .. ..  | Mr. Herbert.   |  |  |
| SIR HARRY NEWBURGH ..                                      | Mr. Lewis.     |  |  |
| SIDNEY .. ..   | Mr. Glenville. |  |  |
| LORD WINWORTH .. ..  | Mr. Wilkes,    |  |  |
| Being his first appearance in this kingdom.                |                |  |  |
| MRS. HARLEY .. ..  | Mrs. Hoskins,  |  |  |
| From the Theatre Royal, Drury-lane.                        |                |  |  |
| LADY BETTY LAMBTON ..                                      | Miss Ambrose.  |  |  |
| MISS RIVERS .. ..  | Mrs. O'Neil.   |  |  |
| SALLY .. ..  | Miss Price.    |  |  |
| And Miss MARCHMONT, by Miss Ashmore.                       |                |  |  |
| With an occasional Prologue spoken by Mr. Lewis.           |                |  |  |
| To which will be added a Comic Opera called                |                |  |  |
| THE PADLOCK,   |                |  |  |
| With alterations and additions by the author, as performed |                |  |  |
| in London.   |                |  |  |
| DON DIEGO .. ..  | Mr. Glenville. |  |  |
| LEANDER .. ..  | Mr. Wilkes.    |  |  |
| MUNGO .. ..  | Mr. Mahon.     |  |  |
| URSULA .. ..   | Mrs. Hoskins.  |  |  |
| And the part of LEONORA, by Miss Ashmore.                  |                |  |  |

Though possessing several good performers, yet at their commencement the new company could not compare with Mossop's staff, many of whom were experienced veterans. As Hitchcock has supplied us a list of the principal performers of both companies at this period, it will not be amiss to present them to the reader. The Crow-street company in 1770, at the beginning of the Capel-street opposition, consisted of the following performers: Mossop (manager), Clinch, Heaphy, Duncan, Bannister, Wilder, Graham, Holcombe, Passerini, Remington, Morris, Kelly, Brown, Fottal, Richards, Chaplin, Spicer, White, Legge, Lenomora, Semanzati, &c. The actresses included the following: Mrs. Fitzhenry, Miss Catley, Miss Mansell, Miss Glassington, Mrs. Heaphy, Mrs. Bardin, Miss Vandermere, Mrs. Brown, Mrs. Hawtry, and Mrs. Barry. As against the above strong company the Capel-street management set off—Lewis, Dawson, Mahon, Wilkes, Glenville, Herbert, Pearson, Tyrer, Walsh, Beaver, &c. The actresses embraced the following: Miss Ashmore, Miss Ambrose, Mrs. Dawson, Mrs. Barre, Mrs. Price, Mrs. O'Neil, &c.

The odds in the light of the above appeared to be greatly against the new company and their little theatre, and it is most likely that Mossop viewed their efforts with undisguised contempt. He was, however, woefully undeceived, and ere many moons the tables were completely turned upon him. Curiosity certainly had a good deal to do in leading to the crowding of the Capel-street house on the opening night. The pieces were well acted and the applause was of the most cheering description. A writer, already quoted, speaking of the first night at Capel-street, observes:—"The new theatre, dresses, novelty of the play, and several of the performers, the brilliancy of every object, and the spirit which animated the whole, operated with magical force, and established a reputation which afterwards proved of infinite service." A good deal of the success which crowned the early efforts of the management is credited to the assistance rendered by Lewis and Miss Ashmore, the former, even at that early period, being a most promising young actor. Wilkes also turned out to be a great favourite with the public.

Very soon after the opening of Capel-street, Mossop manifested his alarm and perceived his dangerous position. He had a strong company, and his expenses were heavy. To stem the tide of public favour, and avert the threatening danger, he brought forward at Crow-street a series of tragedies, particularly those in which he was acknowledged to be matchless. He presented them with the greatest pomp and magnificence. Catley was exhibited in her Euphrosine, which on former occasions proved attractive. Woodward's popular pantomimes were re-introduced, embodying the performances of

Saunders upon the wire, and Lenomora on the rope; every expedient was resorted to that might add to the attraction of the performances, but, after all the success was not at all commensurate with the pains and labour and the weighty expenses incurred.

Mossop's new rivals at their little theatre were steadily, if slowly, advancing—indeed, they were gaining ground daily on their opponent. The production of Bickerstaff's opera of "Lionel and Clarissa," which was selected with forethought by Dawson, was the simple cause of precipitating sooner than was anticipated the fall of Mossop. Got up with care and expedition, it was put on the Capel-street boards and played there for the first time in this country on the 2nd of April, 1770. It proved a lucky hit for the manager, and a severe disappointment to Mossop, who perceived too late that he was outflanked in catering for the public taste. The Clarissa of Miss Ashmore was accounted as "an affecting, natural, and interesting piece of acting as had ever been seen; and the Jessamy of Mr. Wilkes was considered as the standard of excellence."

What ordinary causes betimes lead to success under the most unpromising beginning! While at Crow-street Mossop was playing to empty seats or orders, the Capel-street company were playing to overcrowded benches. This operative piece must have proved wonderfully attractive to the play-going citizens of Dublin. Though brought out late, it had a run of twenty-six nights, finishing up a remarkable season. Mossop endeavoured to retrieve his lost ground by bringing out the opera at Crow-street, three weeks after its production at Capel-street, and presenting it with Miss Catley as Jenny, the Chambermaid; the other characters being personified by Wilder, Heaphy, Duncan, Bannister, Remington, Mrs. Brown, Mrs. Hawtry, and Mrs. Barry. As might be anticipated, it proved a failure. After a few nights it was cut down to a farce, which made an end of it.

The close of the season witnessed the surrender of Mossop, with broken health and embarrassments pressing him down to earth. "Though the idol of the town, as an actor, and not censured as a manager (a thing extremely difficult to avoid), he saw himself deserted by the public, to whose service he had devoted those abilities so much admired. A striking lesson to every manager, how little he can depend on that empty bubble—popularity!"

The curtain drops at Crow-street.—Exit Mossop. Anon it rises.—Enter Dawson.

#### THE ORIGIN OF THE TELEPHONE.

Mr. W. Chappell writes as follows to the *Athenæum*:—

The missing link, for which I appealed to Prof. Pepper or Dr. Baehoffner, having been supplied by Mr. C. K. Salamau, the history of the telephone is complete, even to the name of the instrument. Mr. Salamau was present on the occasion of Her Majesty's visit to the Polytechnic Institution, not "about 1848," as I had supposed, but on the 10th of May, 1855, and has preserved a bill of the announcements. From this he supplies the following extracts in a letter to the *Choir*:—

"1. Lecture by J. H. Pepper, Esq., on Professor Wheatstone's experiments, on the transmission of musical sounds to distant places, illustrated by a Telephone concert, in which sounds of various instruments pass inaudible through an intermediate hall, and are reproduced in the lecture room, unchanged in their qualities and intensities.

"2. A series of ancient keyed stringed instruments, including virginals, harpsicords, &c., will be performed on, and explained by Mr. Salamau.

"3. Ruhmkorff's coil will be kindly explained by Dr. Faraday, F.R.S.

"4. The stereoscope and pseudoscope will be kindly explained by Prof. Wheatstone, F.R.S."

To this Mr. Salamau adds:—

"The small theatre of the Institution was turned into an elegantly furnished saloon, for the use of the Queen, Prince Albert, the Duke of Sax-

Coburg Gotha, and snite. The Royal party occupied state chairs in the centre of the theatre. The platform was almost filled with specimens of virginals, harpsichords, and spinets, of various ages and forms, besides which was an ordinary harp, to the sounding-board of which a thin wooden rod of great length was attached. This communicated with an apartment at the lowest part of the Institution, in which were placed the instrumentalists, who performed some orchestral pieces of music, which were distinctly heard in the theatre above. Prof. Pepper explained briefly to her Majesty the principle upon which sounds were transmitted through wood, and also showed successfully some experiments with tuning-forks."

This seems conclusive as to Europe, but a new question has arisen since my letter, as to whether the principle of the telephone may not have been known in the East before it was discovered in England. In conversation with Capt. C. H. A. Gower, of the Madras Staff Corps, he informed me that it was now in use in Burmah. Seeing a native boy laughing and holding something to his ear, then taking it down to his mouth, Capt. Gower's curiosity induced him to ascertain what the boy was holding. It was something so like the "Eton telephone" that, at my request, Capt. Gower wrote down an account, giving me permission to make it known. His letter is dated January 13th. Referring to my paper in the *Athenaeum*, he says:—

"It has recalled to my mind a fact which may prove interesting to some of the readers of that paper, viz., that the Burmans are well acquainted with the practical use of the telephone. More than a year ago, I found them using one in the town where I was then living, Maocbin, near Rangoon. The apparatus consisted of two short lengths of bamboo; one end of each was closed with strong paper, and the two were connected by a piece of strong cotton passing through the paper, retained in its place by a knot at each end. I ascertained by experiment that this simple apparatus answered perfectly for a distance of 100 yards, sounds being conveyed without any apparent loss. The lowest whisper was heard quite distinctly. I may also mention that the Burmans are acquainted with the mode of obtaining fire by the compression of air. They take a piece of tough wood, three or four inches long, in which they bore a small cylinder of rather less length than the piece of wood. A piston having a small hollow at the lower end is then fitted to the cylinder. To make the piston work air-tight in the cylinder, a little waxed thread is wound round the lower end. The upper end terminates, for convenience, in a knob. When fire is wanted, a piece of cotton wool or touchwood is placed in the hollow end of the piston, which is then inserted in the cylinder, and driven home by a smart blow of the hand. On the piston being withdrawn, the wool or touchwood is found to be alight. I do not suppose that, in either of these cases, the Burmans are aware of the scientific principles illustrated by these simple instruments, but it is curious to find they have a practical knowledge of them."

Capt. Gower adds that this mode of obtaining fire is now being rapidly superseded by Bryant and May's matches.

#### RAILWAY BRIDGE PLATFORMS.\*

It is proposed in this paper to investigate a few points in connexion with the construction of railway bridge platforms. There is no difficulty whatever in finding accurate descriptions of the main girders of large span bridges, as these are considered subjects of paramount interest; the platform, however, supported by these girders, being of secondary importance, often receives but little attention, and in any written account of a bridge is generally either entirely ignored, or described in a vague and unsatisfactory manner. Now in a badly designed bridge platform, every ton of iron used unnecessarily requires additional iron in the main girders to support the increased dead load, the amount varying according to some function of the span, and with the type of main girder adopted. In large spans this addition amounts to something considerable, and waste in the platform thus occasions a double loss. Even in smaller spans, where the weight of the main girders is influenced

in a much less degree by any additional dead load, care should still be exercised in designing the platforms in accordance with true principles, not only as regards economy but also convenience of arrangement and adaptation to the purpose required.

This subject was first brought into notice in 1865, by Mr. Anderson (now one of our past-presidents), in a valuable contribution read before this Institution. He there showed that a considerable saving of material might be effected by placing the cross beams 12 ft. apart instead of 3 ft., in accordance with the usual practice previously. The author, however, stated that he was "not prepared to say what is the most economical distance to place cross beams." Subsequent authors have referred to Mr. Anderson's results, but without carrying them to any more definite conclusion. Most engineers engaged in railway construction have probably at some time or other looked more or less into this subject; and, not thinking their investigations of sufficient importance for publication, each has gone over almost the same ground. This investigation, although imperfect and incomplete, will, therefore, have accomplished some good result, if it elicit the opinions of other engineers in the discussion which it is hoped it will give rise to.

It is intended to confine this paper almost entirely to the cross girders and small beams under the rails, and not to allude to the main girders of any bridge, except in discussing the convenience or relative economy of using 2, 3, or 4 main girders for bridges carrying a double line, under such circumstances as are likely to occur in practice; neither will reference be made to "over bridges," except in cases of limited headway where special devices may have been adopted.

It is now a well known and universally recognised fact that railway bridge platforms are subject to very severe concentrated loads, although in older examples the cross girders were only designed to sustain the same average weight per superficial foot of platform as the main girders. Such concentrated loads as are imposed on a structure by an engine at rest will for convenience be spoken of as "the normal insistent load," and a distributed load that would produce the same strain as "the normal distributed load;" also when a certain load on a wheel is spoken of, such expression is intended to indicate the pressure of that wheel on the rail.

The normal insistent load on a pair of driving wheels will be taken at 15 tons, as, although at one time, engines were constructed with 16 tons or more on the drivers, the almost universal practice now is to limit the normal load on any pair of wheels to 15 tons. The maximum load allowed, according to the laws laid down by the Association of German Engineers, on any single wheel is 130 centners, or 6·58 tons—i.e., 13·16 tons per pair of wheels. It is to be regretted that some such limit should not be adopted here; and, I believe, such might be done by careful designing, without in any way reducing the power of the engine. The "Fairlie Locomotive" is decidedly a move in the right direction, although there appears to be some prejudice against it. Some engines with short wheel bases, although not having an excessive load on an axle, causes greater strains in a structure longer than their wheel base than engines apparently heavier, but the latter cause greater strains in shorter spans. The goods engines on the Stockton and Darlington Railway are of this nature, and produce a greater "normal distributed load" than almost any other type of engine (monsters for inclines and special purposes excepted). They weigh 37·55 tons, or 2·88 tons per foot of wheel base, the wheel base being only 13 ft. The normal distributed load for various short spans traversed by such an engine, are shown on the diagram. For spans less than 17' 4" this load is greater when the trailing wheels are on the centre of the span, but for larger spans when the

centre wheels occupy that position: this causes the peculiar jump observed in the curve at that point.

There are several disturbing forces in operation when a locomotive is in motion, which tend to considerably increase the load on any wheel, particularly the driving wheels. All the vehicles in a train, as also the engine considered simply as a carriage, are liable to some of these disturbing forces, while others are peculiar to the engine as a machine—and, what may appear paradoxical, some attain their maximum when the motion of the engine is slowest. These forces are generally entirely overlooked, or, if thought of at all, considered to be covered by the ordinary factor of safety, without any attempt being made to even approximately ascertain their probable amount. This practice cannot be commended, and a little careful consideration will show that the intermittent variations in the load are too large to be safely ignored. . . . .

Baron von Weber appears to be the only person who has published results of experiments, carried out with much care and ingenuity, and extending over a month on the actual variations in the deflection of engine springs while doing their ordinary work. His results are certainly startling, for he ascertained that occasionally the load on a wheel might vary from ·07 to 2·28 of the "normal load." This only occurred, however, with the leading wheels, which are always affected the most by the pitching of the engine; with the trailing wheels the extreme variation was from ·27 to 1·74; and in no case recorded did the maximum load exceed 1·57 of the normal load on the most heavily loaded wheel. In the above quoted results the weight of the wheels and axle is added to the insistent weights as indicated by the deflection of the springs. It would, therefore, appear that the 7½ tons normal load on the most heavily loaded wheel might be increased 4½ tons by the pitching of the engine alone. . . . .

It is often assumed that the web of a cross girder for a single line receives no strain between the rails, as the live load is applied in equal amount and at equal distances from the centre. The above, however, shows that one wheel might be loaded with 12½ tons, and the other with 7½, or even less. Although from Baron von Weber's experiments we know the actual observed minimum load on a wheel, we do not know what is the least load occurring on one wheel at the instant the other wheel on the same axle is subject to the maximum load; neither is it necessary to know, as this is only one of the minor causes of increased strain in a structure. As, however, it is the purpose of this paper to endeavour to arrive at some numerical estimation of the probable amount of all disturbances that might arise, we will assume, in considering the web strains, that one wheel has double the load there is on the other, say 12½ and 6½ tons respectively, instead of the uniform maximum load previously arrived at of 22 tons on the axle. It can be shown that this would cause a strain in the centre portion of the web of a cross girder for a single line bridge of about one-sixth of the end web strain, and as this central strain might be of opposite kinds, the web there should be one-third of the end section if it were subject to these alternate strains with every passing load. Such, however, is not the case, as only the engine wheels are liable occasionally to the fluctuation we have assumed. The end web strain might also be increased one-fifteenth. This unequal loading on a pair of wheels will also cause additional flange strains in the cross girders, although never previously pointed out; in this case we shall assume 12½ and 9½ tons on the two wheels respectively as giving higher results than the loading assumed for the maximum web strains. For a single line of way this increase of flange strain in the cross girders will amount to 5 per cent. in ordinary cases, 7½ per cent. where the main girders are shallow, and placed only 11 or 11½ ft. apart centres, and ten per cent.

\* By Mr. C. F. Green. Read at Institution of Civil Engineers of Ireland, March 13th, 1878.

in the cross girders carrying a double line. In the latter case the web strains may also be increased from 3 per cent. to 8 per cent.—viz., about 3 per cent at the ends, 5 per cent. at the centre, and 8 per cent. immediately between each pair of rails.

Herr Wohler has shown, by his invaluable experiments on the fatigue of metals, that iron, when alternately subjected to equal tensile and compressive strains, is as much fatigued as when strained in one direction only from zero to double the previous amount; also, that a higher strain may safely be incurred when the whole of the load is never removed, and that an occasional strain higher than the safe working strain is of no consequence within certain limits.

The cross girders carrying a double line are generally only subject to half their calculated load, except when two trains meet on a bridge. This would be of comparatively rare occurrence, except in suburban lines of great traffic, and rarer still that the driving axles of both engines should be subjected to their maximum abnormal loads exactly at the instant of meeting; consequently, as the actual usual unit strain is low, an occasional excess over the ordinarily allowed unit strain may be incurred without causing any appreciable excess of fatigue. It will therefore not be necessary, in cross girders carrying double lines, to provide sufficient section to sustain the possible maximum abnormal load within the same unit strain that would be adopted when the maximum load is constantly being applied. Such section should, of course, be ample to sustain any probable load without any increase over the usual unit strain, and even the possible maximum strain should not exceed certain narrow limits. In large main girders the dead weight forms such a great proportion of the total load that the effect of this is never felt. It is, however, only reasonable to suppose that in the platforms where the dead weight is inconsiderable, the effect might in time be serious if unprovided for. The most practicable way to do this is to reduce the unit strain for the live portion of the load—say 4 tons for the live and 6 tons for the dead load, or an equivalent unit strain for the gross load, according to the respective proportions of the dead and live loads.

There is one other modifying circumstance which should be alluded to—i.e., the distribution of any excessive load by the permanent way—that this really does take place no one denies, but the amount is always considered so uncertain that the Board of Trade refuse to allow any diminution in the strength of the cross girders on this account. It is generally believed that the reason of this restriction is the fact that joints may occur both in the rail and the longitudinal sleeper, immediately over a cross girder, and that the timber may become rotten. All railway engineers know, however, that the spike holes in a sleeper, at least under heavy traffic, become injured, and render the sleeper useless, long before the actual timber is decayed. Again, as regards the occurrence of joints over a cross girder, a properly fish-plated rail will and does even then distribute some of the load, although, of course, to a less extent than if no joint occurred. Now, as the normal load is invariably taken as the maximum load the Board of Trade restriction is a very necessary precaution, as we have already shown that the actual load is sometimes 67 per cent. in excess of the assumed load. We are not disposed to quarrel with this restriction, as the circumstances must be very unusual (except in timber platforms) that would make it advisable to place the cross girders nearer together than 6 ft. at least, and at greater distances the distribution effected by the permanent way is of less importance. Fortunately, in short spans, where the disturbing forces exert the greatest influence the permanent way has more effect in the distribution of such inequalities; but as these opposing forces do not vary in the same ratio they cannot always balance each other,

and the influence of the abnormal load will be felt at some spans more than at others. In fact, at some spans it would seem advisable to give additional strength to the platform, even beyond what is actually required by the Board of Trade regulations. This fact is rapidly becoming acknowledged, and it has recently been proposed to add 20 per cent. to the normal load, to cover all the disturbances we have considered, and, at the same time, to reduce the unit strain 20 per cent., altogether increasing the strength of the platform 50 per cent.; and, in practice, several engineers have adopted a reduction of unit strain in designing bridge platforms.

The prevailing practice of taking the normal load to be the maximum load, certainly has the advantage of simplicity; it would, however, appear to be a more correct and logical method to first ascertain the maximum load, under the most adverse circumstances, as regards the disturbing forces, and then, also, to take into account all modifying circumstances that really do occur, at least as far as their probable minimum effect in actual practice.

In estimating the probable distributing power of the permanent way, the joint both of the rail and the longitudinal sleeper will be assumed to occur in the most disadvantageous position, and the rail to be fish-plated, and of moderately substantial section, as would always be the case where heavy engines are used, such as have been described; with lighter loads and lighter permanent way, the relative proportion would not be much altered. We shall base our calculations on three simple facts, viz.:—That the rail even at the joint is able to transfer the greatest abnormal load to the nearest sleeper. That the deflection of the rail under a passing load must be equal to the deflection of the rail girder, or cross girder. And that the rail, when deflected, must sustain, and consequently distribute to other points, some portion of the load. To be quite on the safe side, everything will be assumed to be under such circumstances as to produce a minimum result. Under the heaviest traffic joint sleepers are never placed nearer than 22 in. centres; we shall only assume the rail capable of transferring the load a distance of 18 in.—i.e., 9 in. each side of the joint; and we shall also take a rather flexible type of permanent way (75 lbs. iron rail and longitudinal sleeper only 5 in. deep, being the minimum depth to efficiently hold the spikes), with an excessively stiff platform, having a depth of one-eighth the span. Considering that, in the present day, for heavy traffic, 84 lb. steel rails with longitudinal sleepers 7 in. deep, are not uncommon, and that platforms are generally much more flexible than we have assumed, it must be admitted that we are within safe limits in all our assumptions.

The paper was illustrated by a large number of excellent diagrams which were specially prepared by the author.

On the motion of Mr. C. P. Cotton, seconded by Mr. R. C. Smith, the discussion was postponed until next monthly meeting.

#### THE MIDLAND RAILWAY COMPETITION.

In the recent competition for designs for artisans' dwellings proposed to be erected at Phibbsborough by this company, the first prize was awarded to Mr. Townsend; the second, to Messrs. Millar and Symes; and the third, to Mr. T. N. Deane. About eighty sets of plans were sent in.

#### HOME AND FOREIGN NOTES.

**PUBLIC HEALTH.**—The mortality is still high in this city, and smallpox appears to be spreading. Personal cleanliness is quite as necessary as compulsory vaccination, neither of which are, unfortunately, much attended to. When the public authorities have never been very particular about keeping the city in a cleanly state, perhaps the very poor think they ought to be very well excused for following the municipal example set to them by the "City Fathers."

**THE IRISH LANGUAGE.**—The Council of the Society for the Preservation of the Irish Language report great progress in the movement, both at home and in America, and that a considerable number of pupils are now learning their native tongue.

**ROYAL COLLEGE OF SCIENCE LABORATORY.**—"We (says a morning journal of recent date) learn that, as in past sessions) the students of this laboratory are making some examinations touching foods and drinks, and light and air of Dublin. The butter and tea and gas supplied to the citizens, and the atmosphere they have to breathe, are among the subjects of investigation and analysis!!!"

**THE BLACKROCK PARK.**—At a meeting of the Town Commissioners, Mr. Kelly moved that the board borrow the sum of £1,500 to continue the works of the "People's Park." Captain Betham seconded the motion. Mr. Smyth moved as an amendment that no action be taken in the matter until the plans for the proposed works were laid before them. Mr. Dunlevy seconded the amendment. Mr. Smyth pointed out the increase of taxation which would ensue, while there was no guarantee that the works would be completed. The amendment was lost by ten to six, and the original resolution carried on a similar vote.

**AN ANALYST'S SALARY CUT DOWN.**—The Queen's County Grand Jury, at their meeting previous to the spring assizes, resolved to reduce the salary of the county analyst (Dr. C. A. Cameron) by £25 yearly. "With respect (says the *Leinster Express*) to the presentment for £25, half-year's salary to Dr. Cameron as county analyst, Colonel Carden remarked that the salary was very high for the work that appeared to be done. Mr. Kemmis—In Kilkenny they only pay half what we give. Colonel Carden—I move that the county analyst's salary be reduced by £25 per annum. Mr. Dease seconded the motion, and it was agreed to. Mr. Franks inquired how were they to know that he would do the work for that? Colonel Carden—We can do without it then!"

**FOREIGN MACHINERY IN ENGLAND.**—In his annual address to the London Association of Foremen Engineers, the president, Mr. Joseph Newton, said:—"The fact that we, as a nation, are being actually beaten on our own ground in many branches of manufacturing industry, is one to which we cannot close our eyes. I may mention a startling instance of this kind which has fallen under my own immediate observation, and which, doubtless, can be supplemented by others. It refers to the newspaper printing-presses in use in this metropolis. This species of machinery is now being largely manufactured in Paris, and in the course of a year or two, nearly every one of the daily and weekly journals of London will owe their material existence to French mechanism. At this moment several of the principal morning papers are worked off from presses made in Paris, and it cannot be denied that these presses are in all ways superior to those which have hitherto been manufactured in Great Britain or America."

#### TO CORRESPONDENTS.

We must still ask the indulgence of many of our correspondents, whose favours we cannot at present devote sufficient attention to. Arrears will be worked off as speedily as possible, and no important contribution will be overlooked. **QUESTIONS.**—We are always quite willing and ready to answer all useful inquiries on the part of young and old, but there are often questions put to us, answers to which could be found in works available to almost anyone with the smallest expenditure of time and trouble. Dictionaries are cheap and plentiful, prayer books are numerous, many architects are ready to supply plans, and lawyers and solicitors are legion. We don't like to interfere with the outside practice of the above professionals.

**RECEIVED.**—R.H.A.—A Provincial Architect.—M.D.—C.W.—J.B.—A Lady (yes).—An Old Bookseller.—J.M.—H.B., &c.

#### NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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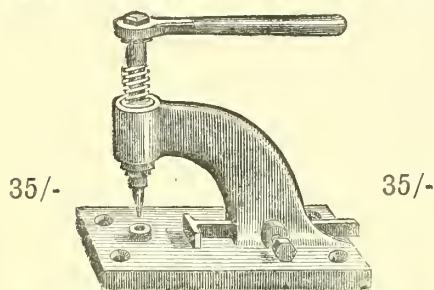
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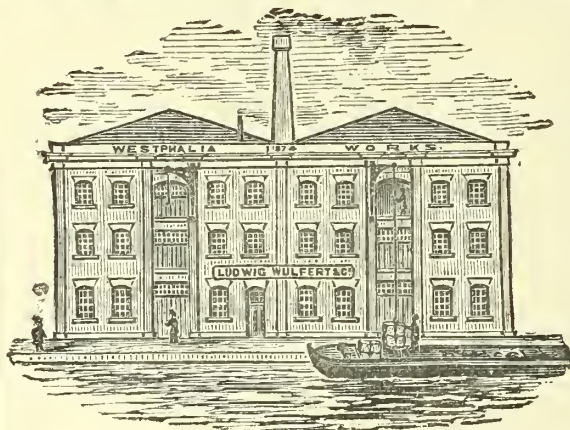
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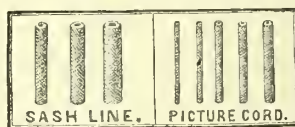
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## Contents.

|   | Page |
|---|------|
| UNDEVELOPED MENTAL AND PHYSICAL FACULTIES ..  | 97   |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Nineteenth Part ..                       | 98   |
| The late Strike of the London Masons ..   | 100  |
| Trade Union Literature ..   | 100  |
| Law—Catherine Moore v. Belfast Harbour Commissioners; Carlisle v. London and North Western Railway Company .. | 100  |
| Notes on the Early History of the Irish Stage ..  | 101  |
| Lectures on Architecture ..   | 102  |
| The Royal Irish Academy ..  | 105  |
| Adversaria Hibernica—Literary and Technical ..  | 105  |
| Ecclesiastical Art-Work—The Paris Exhibition ..   | 106  |
| The Architectural Association, London ..  | 107  |
| The Royal Dublin Society ..   | 108  |
| Correspondence—St. Stephen's Green; "The Viceregal State Carriage"; The "Lia Fail," or Stone of Destiny ..    | 108  |
| Re Art and Architectural "Restoration" ..   | 109  |
| The late Sir Gilbert Scott, R.A., Architect ..  | 109  |
| Stanley's Fluid Professional Colours ..   | 109  |
| The Art Union of Ireland ..   | 109  |
| The Royal Hibernian Academy—President's Address ..  | 110  |
| Death of Henry MacManus, R.H.A. ..  | 111  |
| Dedication of a new Church ..   | 111  |
| Pumping Engines and Pumps ..  | 111  |
| Amalgamated Carpenters and Joiners' Society ..  | 111  |
| Thoughts on "Restriction" ..  | 111  |
| Home and Foreign Notes ..   | 111  |
| To Correspondents ..  | 112  |

## THE IRISH BUILDER.

Vol. XX.—No. 439.

## UNDEVELOPED MENTAL AND PHYSICAL FACULTIES.



A FEW weeks ago Mr. Charles Reade, the popular English novelist, re-opened, in the pages of a London daily paper, a very interesting subject under the title of the "Coming Man." The topic, we may remark, was originally opened some years since in the pages of our contemporary the *Builder*, and a short article on the subject appears in last week's issue of that paper—"Left Handed Artists and Workmen." Mr. Reade's letters are written with considerable vigour, and in the later ones he brings forward many facts showing what has already been demonstrated, that through false and insufficient training, man has for many centuries been little less than a lob-sided animal, and that the powers of his left hand, arm, leg, &c., have been almost wholly neglected or little utilised. He contends for what has been contended already, that the left hand and leg should be trained from early youth to perform the same functions as the right; and he shows that from the earliest times down to the present much superstition and ignorance have been associated with the use and non-use of the left limbs. In this we thoroughly agree with Mr. Reade, and we hope that in his forthcoming work he will be enabled to dispel much of this ignorance and superstition, by affording proofs to mankind of the names of many living and deceased persons well known who have accomplished sundry operations in the fields of art and handicraft, and in other directions by the use of the left limbs; by systematic training and practice, and in cases apart of persons who were not what is commonly called naturally left-handed persons.

The writer in the *Builder* has cited several instances of artists and workmen who could use their left limbs with saem facility as

their right, and other cases wherein persons who were temporarily and permanently disabled in their right limbs learned to perform their ordinary avocations, arts, and trades, with the use of their left hands. At first sight the assertion may sound strong and doubtful, but a little consideration and reflection will show that the left hand may, by practice in youth, acquire as much strength as the right. If one man asked another abruptly to find him a person—man or woman—who could write with their left hand, in ninety-nine cases out of a hundred the person asked would find the greatest difficulty in producing such an adept, even in instances where the person sought was a "naturally left-handed" individual. These so-called naturally left-handed persons, though they are capable of performing sundry operations with their left hand, will rarely be found capable of writing with their left hand or using their left leg with equal facility and with equal strength as their right. In Ireland perhaps more than in the sister kingdom the foolish superstition clings to the use of the left hand, and its use from the infantile state is decried by nurses, old crones, mothers, fathers, and even schoolmasters, who, in this age at all events, ought to know better.

Among the peasant population of this country the use of the *kithougue* is even counted unlucky, and if a woman sees a young urchin flinging a stone with his left hand her foregone conclusion is, that it will be an unlucky throw, and will be sure to do mischief. The stone, of course, is sure to hit something, even though it comes back unobstructed to earth; but why it should be more unlucky when thrown by the left than the right, we never could understand, and perhaps never will. In the case of a naturally left-handed person, as good an aim can be made as by a right-handed one; but if the ordinary handed person is only practising how to use his left hand, of course in that instance he will not be able to make as steady an aim as with the right hand. Not only do the left hand and left leg need to be trained to perform the same functions or operations as the right, but the left eye and the left ear need to be equally trained and attuned to act in unison or apart as circumstances may require.

Clerks who are solely depending on their penmanship and their knowledge of keeping accounts should never neglect training their left hand as well as their right to the use of the pen, in case an accident should deprive them of the use of the right hand. A little daily practice for a few weeks will perfect any young man or woman in the art of writing or ciphering with the left hand. What holds true of the clerk or the literary man depending to a great extent on the use of their right hands holds true also in many cases in connection with arts and handicrafts. The sculptor who interchanges the mallet and chisel; the painter who can interchange brush and palette; the architect who can indiscriminately use the T-square and the pencil with either hands; the carpenter or joiner who, if needs be, can transfer the saw, the hammer, or plane, from right to left hand, and work backwards and forwards in various situations; the bricklayer who can lay a brick with his right, and use the trowel with his left; the plasterer who can run a moulding with equal facility in both directions, and the blacksmith or horse-shoer an anvil or a horse-

hoof, who can use his hammer, tongs, pincers, knife, and other instruments equally well with both hands—all these practitioners and manipulators will be found very useful artists and workmen indeed.

Several parts of the body and the head, let it be noted, play important factors and auxiliaries in the execution of man and woman's work, ordinary and special. In consequence of these auxiliaries it is always possible for a persevering and ingenious artist and workman to accomplish work, even when he has lost an arm or leg, which at first sight would appear to be impossible.

A carpenter, joiner, cabinetmaker, wood-carver, or other wood-working craftsman, in using chisels, gouges, drills, braces, &c., uses the weight or pressing force of the shoulder or breast in connection with the hand or hands that hold these tools or instruments. Under many peculiar circumstances the lower limbs, the legs, and feet of workmen are pressed into service as auxiliaries for grasping between them tools and instruments, or acting singly as aids. In some instances the legs and feet are used to steady or hold, in other cases to act with an active motive power in union with the hands and the directing mind. Take the case of the turner, whether a worker in ivory, wood, or metal. The hands and feet of this workman are employed—the hands holding the chisel or gouge, and the feet each alternately in working the treadle of the lathe. The turner who can grasp or hold his cutting tool in his left hand, changing it alternately from part guide to part manipulator, can render valuable service to himself, and afford an easement to the right or left side of his body, and thus effect a useful and refreshing change. A change of employment is, we all know, sometimes accepted as a kind of rest or relief, so the shifting of the physical leverage of the body from one side to another of the human machine will often afford a rest.

It is far more easy now than in former years for certain classes of workmen to earn their livelihood after they have lost the use of one hand or arm. Let us suppose the ordinary case of a joiner or cabinetmaker who lost the use of his left hand. It is quite possible for men of these trades to earn a decent living by the use of one hand, by becoming makers of articles of ornament or house furniture, dressing cases, cases for instruments, and boxes and nick-nacks of various kinds. Formerly it was indispensable that wood-working operatives should perform the operations of mortising, moulding, &c., for which it was necessary that they should hold the handle of the mortising chisel in the left hand, while the mallet in the right was used for hitting the handle of the chisel. Since the introduction of wood-working machinery we have hand mortising machines which can be used with one hand, so by the simple contrivance of a treadle for the feet the shifting power of the left hand (if it be absent) can be transferred to one or other of the feet. Thus mortising, tenoning, and other operations can be performed with one hand alone, through the instrumentality of machinery and the feet. Several other operations also could be performed by making portions of the limbs and body contribute aid to a single-hand operative, and what the right hand can do the left also can be made to do under similar circumstances, supposing the right hand to be disabled or lost.

We might cite several instances of men in various trades in the building branches and outside of them who have learned to do with their left hands and limbs what is ordinarily performed by the right. The education and training of the eye is a subject also much neglected, as also the ear. Some men have wonderful power of sight—not merely the power of seeing at long distances, or discerning small objects, but the power of computing, measuring, or calculating distance, or telling nearly the height or breadth or the cubical content of a certain bulk of any ordinary material. This power of approximating can by practice be ripened to a marvellous approach towards exactitude, and some of the most unlettered individuals often possess this power. It will often be found in the lowest ranks of daily working life—in country and town, in field and workshop.

In respect to the power of the ear in detecting sounds, much also might be written. Take a fine musically attuned ear, it matters not whether it be a man or woman; let a new piece of music be played to either, and, though they never heard it before, they will both easily detect any discord; but, unless they knew the piece they would not be able to detect a false bar in the music, for harmony can co-exist with false bars, but harmony and discord are antagonistic and repellant. There are thousands of people, rich and poor, who are fond of music, and whom music can move to tears or lift up into a kind of ecstasy, who are unable to detect a false bar or a discord; and again, on the other hand, there are hundreds of persons, men and women, who, though they never learned the theory of music, can play a piece correctly (though the harmonies may differ) after hearing it for the first time. Apart from musical training, the ear is susceptible of wonderful expansion in its hearing powers, and in detecting various sounds, natural and mechanical.

The power of memory is another power much overlooked and neglected. We do not place much trust in systems of artificial memory. Reading with care, and thinking and reflecting upon what you have read, and not letting a subject of importance escape until you have properly understood it,—this is a training which will go far to improve your powers of memory. In fact, we might go through the five senses—hearing, seeing, smelling, tasting, and feeling,—and conclusively show by examples to what a great extent the utilisation of these great gifts or natural powers is neglected, and the compensating balances that man may judiciously use when he has unfortunately lost one or more of these powers.

The more we train any mental or physical faculty (if we do it with moderation, and not with excess), the more powerful and useful will that faculty become. The right hand, the right leg, and the right eye are stronger, because they are more often used than the left. Were we tempted to go into the region of physiology proper, we could furnish sundry examples to strengthen our doctrine. The mother that nurses and suckles her own child is the more healthy and motherly woman. If a child is continually suckled on one breast, that breast will be the largest, while the opposite will dwindle or grow small. The perversity of some mothers, well-to-do and humble, is almost unaccountable. We do not wish females more burdens than what they are heirs to; but the advent of twins more often in some households, apart from the

additional expense and trouble it brings, would teach a pertinent lesson in human health, and show that Nature anticipated worldly wants, and provided for them.

With nearly nineteen centuries of christian civilisation (and of the many before, we need not speak now), let us ask, Are we really civilised? are we learned? or are we even thoughtful and practical, speaking in a general way? We are an inventive people perhaps, and are daily and hourly clutching and straining at the unknown, while the known lies often utterly wasted or neglected before us. With marvellous, mental, and physical resources, waste powers and undeveloped faculties, we jog along, thinking that our body is a power in the land; and so it is, properly understood. How helpless, after all, are men and women, with the loss of a single sense or a single limb, and how much more powerful might they not be if as children they were properly educated and trained, and as mothers and fathers not only civilly united, but suitably mated.

#### POSTSCRIPT.

The born blind, and even those losing sight in middle life, are capable of acquiring an art or a trade, such as basket-making, mat-making, net-making, and other kindred branches of labour. We have known several blind people, and some who lost their sight before they had reached middle life, becoming the makers of sundry ornamental articles by which pursuits they earned a livelihood. By practice, blind persons, with musical tastes, can learn to play on several stringed or wind instruments; and the senses of hearing and feeling are often wonderfully acute with some of these individuals. They will recognise a certain voice among a dozen others, and identify the person. Some of these blind or sightless individuals have also the sense of feeling highly developed, and are able to identify animate or inanimate objects by the touch. The reading of books by means of raised letters is common and generally known. Some persons, too, who possess their sight can approximate pretty closely, by the feel, the number and weight of several dozens of small articles which they grasp in their hand, whether buttons, beads, or other fancy articles. Match-making by hand labour, in some of its branches, affords an illustration. The workman or operator (man, boy, or woman) will grasp a number of splints which have been tipped with the compo mixture on either end. He will then pass these under the cutting-knife, the handle of which he presses down with his right hand, which separates the splints in twain. Taking up one of the empty match-boxes beside him on the bench, he is able at one grasp, by the power of sight and feeling, to take up the sufficient quantity of matches to fill the box. We have watched this operation (like other kindred ones), and we have been assured by the employers and the workmen themselves that if the number of matches in each box were counted they would often tally in count, and where differences exist it will be found not to amount to more than three or four matches under or over what might be termed the standard quantity.

The sense or power of smell with some people is very keen, and with others very weak, and again in more instances it is altogether absent. We know persons who possessed a very keen sense of smelling in their

earlier years, and who could detect the odour or perfume of various flowers and scents, but who lost this power in later life. The power or sense of taste, however, that remained with them afforded a compensating balance to make up for the loss of smell. The loss of smell and the defect of colour blindness, which some individuals unfortunately experience, are serious losses under some circumstances. It would lead us too far a-field to discuss in detail the bearings and belongings of the senses, and to show how intimately they are connected with the welfare and worldly prosperity, and the active manual and mental pursuits of man.

#### NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

##### NINETEENTH PART.

In any notice of the printing and publishing trade in Ireland it would be an unjust omission to ignore the part that some provincial cities and towns played in that history, but, as we are not writing a history proper, we can only briefly allude to a few prominent provincial events. We have already, we believe, in the earlier part of our Notes, incidentally mentioned some early printed works at Waterford, and coming to a later date, the claim put in on behalf of Belfast for the issue of the first printed copy of the Bible in Ireland from the press of James Blow about 1705. Comparatively speaking, however, very little printing appears to have been done in Ireland, outside the capital, until the early part of the eighteenth century, and the publishing trade proper may be said to have been always confined to the capital. True, from the last quarter of the eighteenth century and throughout the present century, several works have been printed in provincial cities and towns, principally in Cork and Belfast, and some of them have been turned out quite as well as if they had been produced in Dublin; but, in the history of the capital is embodied the story of Ireland's printed literature. From a little before the middle of the eighteenth century dates the uprise of the provincial press, and since that period till the present the provinces have furnished several creditable representatives of journalistic literature, some of which are still living, having long passed their hundredth anniversary like a few of their more ambitious Dublin contemporaries. The *Belfast News-Letter* is, we believe, the oldest provincial newspaper in Ireland, having been established as a weekly paper as early as 1737. During our own time this paper was a bi-weekly, but of late years it has become a prosperous daily. The *Londonderry Journal* dates from 1772, and several other northern papers date from the first quarter of the present century. Outside Dublin, in the province of Leinster, the oldest paper is the *Kilkenny Journal*, 1767, and among others some date from the early part of the present century. Connaught has a representative in the *Sligo Journal*, dating from 1752, but the majority of the rest are of late date in this century. Munster could and can boast of a few old representatives, the *Limerick Chronicle* being the oldest, dating from 1766, the *Kerry Post*, 1774, and the *Clare Journal*, 1776. Some old-established provincial newspapers have, during the last half century and previous, been subjected to the same or similar vicissitudes as those in the capital, and have expired after a long run; while several others towards the latter end of the past century, and in the present century, have lived but a few years, and some again only a few weeks.

Several of the printed books, pamphlets, and other publications issued in the provincial cities and towns were printed at newspaper offices, and issued therefrom instead of from any distinct printing or publishing firm. Several works of interest in the pre-

sent century have been printed in Cork and Belfast, and a few in other towns—historic, local, and general topographical and archaeological sketches, and volumes of poems by local authors, almanacks, chap-books, tracts, broadsides, and ballads, &c. It would be a tiresome detail to even enumerate the principal of the above class of works: they are well known to book collectors, Irish historical writers, and that very indefatigable and useful class of men whom we will call the antiquarian booksellers. From the early printing press of "James Blow," in Belfast, several other works issued besides those of the Bible, educational treatises, devotional works, and chap-books.

Joy and Magee were two notable printers in Belfast towards the close of the eighteenth century, and they printed some respectable publications, and their typography would favourably compare with those of the capital.

At a later date and extending a good way into the present century were other creditable representatives of the printing and publishing trade in the Northern Athens, and conspicuous among these was the firm of Messrs. Simms and M'Intyre, who issued a variety of works, including a series of cheap editions of novels by native and English and foreign authors.

"Honest Jack Lawless," well known in connection with the "Catholic Association," was proprietor and editor of a Belfast newspaper in the early part of the present century, called the *Irishman*. He published there, in 1815, "A Compendium of the Political History of the last Forty Years," 8vo. In London, in 1824, was published Lawless's "Compendium of the History of Ireland from the Earliest Period to the Reign of George III.," 8vo, in two volumes. Besides newspaper organs of the United Irishmen in Belfast, the *Northern Star*, &c., several pamphlets, reports, proceedings, proclamations, manifestoes, and a variety of other matter appertaining to the society and its chiefs were printed in Belfast.

At the period of the Irish Volunteer movement literary activity in Ireland was rife in the north of Ireland, in Belfast, and other northern towns. In the first year of the native Parliament appeared Crawford's "History of Ireland," bearing the imprint of Strabane, 1782. This work was issued in two vols., 8vo, and was published by subscription. Among the list there are many names of the leading nobility, gentry, and merchants in Ulster, evidencing that the work was well patronised. Occasional works were printed in the last and present century in Armagh, Derry, and other towns in Ulster.

Among the noticeable journals which were published in Cork in the eighteenth century was the *Hibernia Chronicle*, "printed by William Flynn, at the sign of the Shakspeare, near the Exchange." The first issue was in 1768; it was a 4to, and had for its editor Henry Sheares, the father of John and Henry Sheares, who suffered death for their political principles in 1798. Comerford's "History of Ireland, from the Earliest Account to the Invasion of Henry II., &c., with a Dissertation on the Laws, Customs, and Manners of the Ancient Irish, and Copious Tables of Pedigrees of Irish Families," 12mo, was published in Cork in 1807. Temple's "History of the Rebellion of 1641," with Fishburne's "Account of the Siege of Drogheda, and the Trial of Lord Maguire," 8vo, was printed in Cork in 1766, but there are earlier editions of these works. An edition of Charles Smith's "History of Cork," in two volumes, 8vo, companion to his histories of Waterford and Kerry, was published in Cork in 1815. Besides general works and some new editions of old authors in different fields, during the last half century, several volumes of local history collections, sketches and poems, by local writers, have been printed and published in Cork. Antiquarian theories and Round Tower controversies among outsiders and members of the South Munster Society of Antiquaries and other archaeological bodies gave birth to a considerable amount of literary activity before the close of the first

half of the present century. Among these literary antiquaries were the late John Windele, James Roche, Father Horgan, R. R. Brash, and several more whose names do not occur to our mind at present. Numerous political, religious, and miscellaneous pamphlets, have issued for upwards of a century from the Cork press, some being reprints of contributions to the local newspapers. It may be added here, at the same time, that a considerable portion of the literature relating to Cork and to Munster generally, the work of south of Ireland authors, has been printed and published in Dublin, and some more of it by London houses. *Re Flynn*, already mentioned, "The Modern Monitor, or Flynn's Speculations," 12mo, Cork, 1771, was a reprint from the *Hibernia Chronicle*, and it contains several of the contributions of the elder Sheares. A little work called "Edwards's Cork Remembrancer or Tablet of Memory," 8vo, was issued in 1792, and is now very scarce. It is stated to enumerate "every remarkable circumstance that has occurred in the city and county of Cork, and in the kingdom at large, &c., from the earliest period to the year 1792." Closely connected with our subject a book was issued in Cork in 1835, written by West, a Cork bookseller, entitled, "Fifty Years' Recollections of an Old Bookseller." It contains a lot of anecdotes and characteristic matter in connection with authors, actors, artists, books, and booksellers.

The eccentric Pat O'Kelly, who has been termed the last of the satiric or abusive Irish hards, and who walked this island, north, south, east, and west, in pursuit of his avocation, from some time towards the close of the last century to a considerable way into the present, published some of his works in Cork. During his career, O'Kelly levied a good deal of black mail, and often obtained subscribers for his several volumes more through fear than love; for the wealthy and well-to-do who refused to subscribe or put down their names were remembered in pungent rhyme. Many in this country are familiar with his "Litany of Doneraile," his string of curses on those who stole his watch and seal, and his subsequent "Palindrome" when his lost property was restored to him or replaced by better. O'Kelly published his "Bardic Visitation of Connaught and Leinster" in 1812; the book has a list of upwards of 3,000 subscribers. Mr. Samuel Ferguson, in one of his notes to "Congal," published in 1872, observes of O'Kelly:—"Some of his encomiums are not wanting in neatness; and he displays great versatility in varying his laudatory formulas. His lampoons, when he failed to find subscribers, are coarse but vigorous, and must have been eminently annoying. That he should have escaped personal chastisement in the then state of Irish society, is only to be accounted for by the lingering superstition which still invested the bard, however unworthy, with the security of a quasi sacred calling."

The Irish bard had indeed degenerated centuries ago, but the laws enacted from time to time were insufficient to eradicate the order, which eventually dwindled down until it was only represented by fulsome adulators and satirists, who gloried in attacking private character. The political satirists of the personal kind in Ireland have long outlived the wandering or vagabond class; and, though books are not often published by subscription now, we are not quite sure but a considerable amount of "black mail" is levied in one form or another by journalistic scribes untrue to their profession.

During the uprise of the teetotal movement in Cork under Father Mathew, efforts were made there as well as in Dublin to establish journals and periodicals, and by enlisting the services of the old established papers, to support and advocate the temperance cause. The late John Francis Maguire, M.P., started a little serial in Cork, which was under the auspices of Father Mathew, but it did not last very long. Subsequently, in 1841, Mr. Maguire started the *Cork Examiner*, which he edited and

contributed to for many years. The journalist several years before his death became the truthful biographer of his early patron. There were several attempts in the present century to found a successful periodical in Cork, but none of the ventures were long-lived. The *Patriotic Magazine: Political, Moral, Historical, and Poetical*, 8vo, Cork, 1808-9, was started by a noted attorney of that city named John Reynolds, who was proprietor and editor of the periodical in question. It would appear from his statements that he was much persecuted by the Cork Corporation of his time, owing, as he says, to his exertions in behalf of his injured fellow-citizens, and in support of the Liberty of the Press. Bolster's *Cork Magazine*, while it existed, contained some clever contributions from local writers. In the absence of a magazine in Cork the pages of the newspaper at Christmas and other times were utilised for displays of story writing and poetry. Some of the Christmas numbers and supplements of the *Cork Examiner* in past years contained racy local sketches and Irish stories, &c. We forget whether the custom of bringing out Christmas numbers or supplements originated with magazine literature or newspaper journalism. The old *Gentleman's Magazine* of London used to add a supplement to the yearly volume at least as far back as fifty years ago, and Philip Dixon Hardy brought out supplements (pictorial and descriptive) to the last volumes of the *Dublin Penny Journal*, 1834-6.

A work was printed by Stacey in Carrick-on-Suir in 1796, called the "Pentaglot Preceptor—Elementary Institutes of the English, Latin, Greek, Hebrew, and Irish Languages, &c.," 12mo, written by Patrick Lynch, of whom we gave some particulars in our account of almanack compilers and publishers in Dublin. Only the first volume appeared, and the work is now very scarce. Lynch was the author of other publications equally scarce. He also, as stated before, compiled an almanack for Stacey, printed in Carrick-on-Suir. In Ennis some small productions were printed from time to time. In Limerick some creditable works were printed, historical, antiquarian, and volumes of poetry, &c., and among these were J. Ferrar's "History of Limerick, from the earliest Period," 8vo, 1787. This edition, which is the best, contains maps and plates. Waterford figures more prominently as a place where some very early printing was done, than for its works in the eighteenth or early part of the present century.

Kilkenny turned out some creditable publications, religious, historical, antiquarian, and miscellaneous—some by local authors. The City of the Confederation in the Confederate times had the need of a printer who could keep authors' and leaders' secrets, and we believe Kilkenny found printers of this class, who executed their work well. Some productions of local writers were issued from the press of Kilkenny in first half of the present century, and the able contributions of some of these Kilkenny men, by birth or by adoption, will be found in the Kilkenny newspaper press, as well as in the Dublin ones. Among these literary men were doctors, divines, professional journalists, zealous antiquaries, archaeologists, and novelists—John and Michael Banim, Rev. James Graves, John Prim, Dr. Cane and Dr. Campion, and others whose names do not occur to us just now. Though belonging to a later date than that with which we are dealing, we may incidentally allude to the contributions of some of the above writers in the "Journal" of the Kilkenny Archaeological Society (now the Royal Historical and Archaeological Association of Ireland).

From the Newry press issued several excellent works of a historical character, and some more of various kinds. Stuart's "Historical Memoirs of the City of Armagh," &c., 8vo, was printed here in 1819. Local sketches and tales, volumes of poetry, chap-books, &c., were also issued from the Newry press from time to time in the early part of

the present century. The oldest Newry newspaper still existing, the *Telegraph*, dates from 1812. Downpatrick, too, has turned out some printed works. Among the most curious of the productions published in this northern town is "Heterogenea, or Medley, for the Benefit of the Poore," by John Moore Johnston, 12mo, 1803. This "Medley" contains particulars of various families in the County Down, and those of other towns in the province of Ulster, their mode of living, &c., with descriptions of Lisburn and ten other parishes in Antrim. Embodied there is also a curious account of the author's life. Derry, though boasting of a newspaper press for upwards of a century, has turned out few printed works of note.

A small production bearing the imprint of Armagh, 1740, entitled "The Third Ode of the Third Book of Horace, imitated on the occasion of the French fortifying Dunkirk," is entitled to notice, on account of its author, Charles Carthy, A.M. This somewhat noted person was also the author of other productions, among which were a "Translation of the Second Book of Horace's Epistles, together with some of the most select in the First, with Notes, &c.," printed in Dublin in 1731; "An Ode on the Present War with Spain," Armagh, 1740. Copies of the above, bound in one volume, may be sometimes picked up in the antiquarian booksellers' shops in Dublin, but clean and perfect copies are rare. Carthy, the author, was particularly obnoxious to Swift and Dunkin, as readers of the dean's works may be aware. In consequence of his publishing the text of Horace on one side of his page and his translation on the other, he was nicknamed *Mezentius*, a tyrant who inflicted punishment by joining the living to the dead. Various epigrams and verses will be found in Swift's poetical works directed against Carthy, or perhaps we should write McCarthy, though he left out the prefix.

The printed works, tracts, books, and other productions issued from the press of other towns not enumerated, mostly belong to the present century, and to a later date than those cited. Of late years, in Galway and Tuam, books in Irish, as well as Roman characters, have been printed, and among these are some of the works of Archbishop MacHale, and we believe the Rev. Ulick J. Bourke, both excellent Irish scholars and authors of various works, religious, educational, and historical. As might be expected, the maritime cities and towns of Ireland were the first places (with slight exception) in their respective provinces where printing-presses were set up, and in several of them, in the last and in the present century, the first pioneer was a newspaper publication. The province of Connaught, though it was not behind other provinces in producing eminent literary churchmen or laymen in the past, it appears to be the last part of Ireland in which the printing-press proper was introduced.

At the commencement of the present century, outside the capital, there were, comparatively speaking, few newspapers published in Ireland; but from the beginning of the second quarter of this century provincial journals began to crop up. Before the close of the half century, nearly every county in Ireland had a representative journal, and some of the chief county towns several of various shades of party and religious opinion. Much interesting *memorabilia* in connection with the provincial press, men, and events might be given supplementary to the general subject of our historical review. Our object, however, is not to compile an all-embracing volume or volumes on Irish printing and publishing. For such a task we have neither the health, the time, nor the facilities; and we doubt also if we had the requisite ability to undertake the exhaustive labour, we could find an enterprising publisher in this poor country to undertake the bringing out of such a work. As our "Notes" are drawing to a close what we have just stated may not be out of place—*obiter dictum*.

## THE LATE STRIKE OF THE LONDON MASONS.

THIS strike, which may now be considered at an end, leaves upwards of 500 men out of employment. These masons must be supported by the union until they can obtain work at the old rate—9d. an hour. The strike lasted 32 weeks, and is said to have cost the unionists, who have been aided from the funds of other trades, close upon £30,000. It is thought the master builders must have expended over £10,000 in the importation of foreign workmen, and the transport to London of men from various parts of the country.

On this subject the *Daily Chronicle* has the following:—

"The masons' strike has at length come to an end. After eight long months of strife the capitalists have worn out the 'sinews of war' of labour. Capital has introduced foreign workmen, whilst the 'strikers' have lived on imposts levied on their fellow masons throughout the country and grants from trades unions of all branches of mechanism and handicraft. The masons commenced the strike last July for an increase of pay of one penny per hour and a shorter time of labour. The Masters' Association conceded the latter, but refused the former. The strikers' demand was made *en bloc*, and they declined to yield. The result is that they have now lost both shorter hours and increased remuneration. What the cost of the strike has been to the masters we have no means of ascertaining. Their capital, however, enables them to recoup themselves, whilst the victory promises a peaceable future. What the cost has been to the men we have only too much experience on which to found an opinion. The artisan, in ninety-nine cases out of a hundred, lives from week to week. He has seldom any monetary resources to fall back upon, and if even he has laid up a little store for a 'rainy day,' his slender stock is soon consumed in rent, raiment, and the daily wants of a home. It is true that during a strike he receives a weekly allowance from the society, but in how few cases is this sufficient for the support of a family? Little household luxuries are first sacrificed at the shrine of the pawnbroker, and, in quick succession, follow furniture, clothing, and domestic articles that can ill be spared. The children and the wives suffer from short rations, and, in too many instances, 'the bread-winner' acquires habits of indolence, which in turn beget an indifference that leads to neglect of home. The strikers are compelled to put in a daily appearance at some local committee-rooms, held for the most part in public-houses. Here they sign their names as an attestation that they are still 'on strike' and have not become 'blacks,' as are termed those who yield. The amount of penury and misery inflicted on once comfortable homes would appal the staunchest unionist, if he could only look the question of 'strikes' boldly in the face and realise the stern realities of the position; but, unfortunately, hopes are held out of a speedy triumph, until, as in the present case, the men are forced to confess themselves defeated. The days of strikes are doomed. The age is growing too cosmopolitan for them. The narrow limits of trade no longer exist. France, Germany, Belgium, Switzerland, and even America compete with England in the labour market as well as in the mart of capital. Steam and rapid and cheap travelling place foreign competition in awkwardly close proximity to our shores. The strike is a lesson and a warning for the future. It is a war that advancing education will not permit. There is only one safe mode of settling these trade disputes. Courts of Arbitration, composed equally of representatives of labour and capital, must in future strike the balance. Any attempt to cut the Gordian knot of Labour *versus* Capital will be futile, or, if attempted, can only lead to destruction or the importation of foreign labour on a scale to be deprecated. We

trust, therefore, that not only the masons, but all artisans, and their employers, too, will grapple with the vexed question in a reasonable and calm manner in order to avert the calamities that result from strikes. We advocate for every man a 'fair day's wage for a fair day's work,' but we object to strikes as damaging to the country's interests and welfare, and to the best interests of the working men themselves."

## TRADE UNION LITERATURE.

MESSRS. Crosby Lockwood and Co., of Stationers' Hall-court, have issued a reprint of Sir Edmund Beckett's five letters, recently published in the *Times*, with some additional matter. The letters are very vigorous, contain some unpalatable truths, but are written in too aggressive a style. On the subject of "Strikes" he strikes hard against the workmen and trade union abuses, and occasionally he hits at the faults and failings of employers. The letters are worthy of perusal, although they do not show a very tolerant spirit. In them, however, friend and foe alike will find suggestive and pertinent remarks. Sir Edmund Beckett has always the courage to express his opinion, and to use very strong language; and, no doubt, he is quite prepared to bear the brunt of criticism on the part of trade union upholders and advocates whom he has taken to task. We are not quite sure his style of writing on the question under notice is calculated to effect much good; but it is only proper that both sides of the subject should be discussed, so that outsiders and the general public may be enabled to draw conclusions. We are opposed both to strikes and "lock outs," and, conscious as we are that there are faults on both sides, we would rather encourage a conciliatory spirit than widen the differences between masters and workmen by the ventilation of too sweeping assertions or needlessly severe, even if truthful, comments.

Messrs. Chatto and Windus, of Piccadilly, have in the press a work by Mr. George Howell, entitled, "The Conflicts of Capital and Labour," being a history of the origin, progress, constitution, and objects, &c., of trade unions in Great Britain. Mr. Howell, being a whilom building workman, and having a long acquaintance with the subject, his work is certain to be a useful and comprehensive one. He is known already as the author of a "Handy Book of the Labour Laws," which has obtained a wide circulation among trades unions, friendly societies, and other kindred bodies. The forthcoming work will contain fourteen chapters, commencing with the ancient trade guilds, and proceeding and taking up every question of importance connected with trades bodies and labour legislation from the earliest time until the present day. There will also be a number of appendices, containing useful matter. The work will supply an urgent want, even apart from the writer's special views, because of its historic character, and the materials it will embody.

## LAW.

### COUNTY ANTRIM ASSIZES.

*Catherine Moore v. Belfast Harbour Commissioners.*—Plaintiff sought to recover £2,000 damages for injuries sustained by her whilst crossing defendants' tram-line in Oxford-street, Belfast. Travelling on a hackney car, the wheel got caught in the metals, she was thrown off, and her leg was fractured. The jury awarded her £680.

*Carlisle v. London and North Western Railway Company.*—At the same assizes Mr. Alex. M. Carlisle brought an action to recover £8,000 damages for injuries received whilst travelling on defendants' line between Fleetwood and London. By the sudden snapping of a coupling, the hinder carriages clashed together, and plaintiff's head was severely injured. He was awarded £1,250 and costs.

NOTES ON THE EARLY HISTORY OF  
THE IRISH STAGE.\*

AFTER Dawson obtained possession of Crow-street theatre, the title of "his Majesty's Servants" was transferred to the staff at the little theatre of Capel-street. Dawson was active and persevering, and availed himself of every advantage that fortune or the misfortune of others cast in his way. He succeeded during the summer in making some good engagements, including the veteran Macklin, Clinch, and Miss Young; but the company appeared rather late in the season. "His Majesty's Servants" at Capel-street opened first on November 9th, 1770, with the "Beggars' Opera" and the "Anatomist." In the latter piece a Mr. Dodd made his first appearance as Monsieur Le Medecin. This actor possessed tolerable abilities and had some pretensions to literature. His representations of Frenchmen were said to have possessed great merit, and in other characters he also displayed talent. About a fortnight after the opening, Miss Young, from Drury-lane, made her first *début* in Dublin in Jane Shore; Hastings, Mr. Lewis; Dumont, Clinch; Gloster, Dawson; and Alicia, Mrs. Burden. Miss Young soon established a reputation and became a favourite. She acquitted herself well, both in tragedy and comedy. Macklin shone in his inimitable character of Shylock, and met and merited the applause of his friends and countrymen. John O'Keeffe, whose racy "Recollections" were published many years after in the present century, and from whose pages we have quoted more than once, we find in the "Merchant of Venice," in the character of Gratiano. Shortly after young O'Keeffe appears in Filch, Fribble, Jessamy, in *Lionel*, (in which he replaced Wilkes, who had left the company) Squire Richard, and other characters.

At Smock-alley his last intrenchment, the dethroned Mossop had but little strength to oppose against the above performers. The old theatre was once more furnished up, as well as straitened means would allow, and was announced as the "City Theatre" under the patronage of the Lord Mayor. It opened on the 26th of November, with the tragedy of "George Barnwell." The hero of the piece on this trying occasion was a Mr. L'Estrange, from Drury-lane, and Mrs. Day, in the "Virgin Unmasked." Little could be expected and little resulted from this combination of theatrical talent. A more fortunate circumstance for Mossop was the return to Dublin of Mr. Ryder, who was absent for the previous five years. Mossop secured his services, and he soon made his appearance. During Ryder's absence from Dublin he conducted a number of provincial tours, and managed, it is said, his company with much credit and emolument to himself and his performers. The principal towns visited by Ryder were Kilkenny, Waterford, Galway, Sligo, Belfast, and Derry. Ryder opened at Smock-alley in Sir John Restless, and experienced a most warm greeting. Of the value he was to poor Mossop may be estimated from what Hitchcock writes of the state of affairs at this period:—"Though he [Ryder] was not able entirely to stem the tide of popular favour that continued to follow Capel-street Theatre, yet he for a time upheld a cause which without his assistance must have sunk under the pressure of accumulated misfortunes." Though we may speak more fully of Ryder's abilities and characteristics hereafter, it will not be amiss to give here the opinion of one already quoted as to his capacities at the time of which we are treating:—"Ever distinguished by the versatility as well as the excellence of his genius, Mr. Ryder even then might be deemed a theatrical Atlas, who at that time, and for many years after, principally supported the heavy burthen of the Irish drama. This may easily be perceived by a review of the various characters he sustained during a period of eleven or twelve years, when it might be truly said he was every night before the

public." The favourite popular opera of "Lionel" was performed at both houses, but the Capel-street house possessed and maintained the advantage, though Ryder played Lionel at Smock-alley with credit. Macklin and Miss Young were of course a power at Capel-street and a great acquisition to Dawson. Macklin brought out his "Love à la Mode" and "True Born Scotchman," and both pieces were often repeated to good audiences. "The Romp" and the comedy of "'Tis well it is no Worse" were played at this period; in the former Miss Ashmore signalled herself.

Cumberland's comedy of the "West Indian," which had been brought out in the sister kingdom in the early part of the winter with great success, attracted the attention of the Dublin managers. Capel-street was first in the field, where it was announced for Tuesday, February 19th, 1771. This was its first representation, and the caste was as follows:—Belcour, Lewis; Dudley, Clinch; Stockwell, Holcombe; Captain Dudley, Kane; Varland, Herbert; and Major O'Flaherty, Dawson. The ladies were:—Lady Rusport, Mrs. Barry; Louisa Dudley, Miss Ashmore; and Miss Rusport, Miss Young. A like success appears to have attended the public reception of the comedy in Dublin as had taken place in London. Dawson's Major O'Flaherty, it is stated, "united the brave veteran soldier with the man of feeling whose heart was replete with the noblest impulses of humanity." A piece that presented the Irish gentleman in happy colours was certain to be well received no matter what might be the other defects of the play, but there appears from contemporary accounts to have been also general good acting on the occasion. Dawson, Lewis, Miss Ashmore, and Miss Young are bracketted together for characteristic acting in the "West Indian." Nearly half a dozen of crowded houses were witnessed at Capel-street before it could be put on the stage at Smock-alley, and as a consequence little was gained in the latter theatre by its production. It must have been indeed disheartening to Mossop to be playing to houses filled with orders, whilst an overflow was taking place nightly at Capel-street. Mossop's personation of the character of Belcour was by no means commensurate with his talents as an accomplished tragedian—indeed comedy was never his forte. The "West Indian" was consequently a success at Capel-street, and, other circumstances considered, a failure at Smock-alley.

Of Richard Cumberland, the author of the "West Indian" and several other plays, some notice may be given here. He was the son of Dr. Cumberland, the Bishop of Kilmore, by Joanna, the youngest daughter of the noted Dr. Richard Bentley. He was educated for the church, and for a series of years between 1761 till 1780 or upwards, he produced a succession of plays. He acted for some years as solicitor and Clerk of the Reports and Plantation Office. In 1780 he was despatched to Madrid on a secret and confidential mission. He held his secretaryship of the Board of Trade till 1782, when the Board was suppressed, and some time after he retired on a compensation allowance. He settled down in Tunbridge Wells, where he continued to devote his leisure to literary pursuits. He gave to the world a large number of comedies, essays, tragedies, novels, operas, poetry, and pamphlets. Of his dramas alone, which amounted to upwards of thirty, few are now remembered, and we do not remember that any are retained on the stage. Cumberland was born in Cambridge in 1732, and died at Tunbridge Wells in 1811. Through his father's connection with the Irish Church, the dramatist was well known in Ireland, and was generally well received in this country; indeed for several years his name was a very popular one in literary and fashionable circles in Dublin and the provinces. A contemporary writer in the *Biographia Dramatica* of 1782, thus speaks of him:—"He is a very prolific but unequal writer, some of his comedies making near approaches to excellence, while

others of his works, as may be presumed from the hasty composition of them, are by no means calculated to support the reputation he has acquired. This criticism proved to be a just one. Cumberland's essays, however, have helped to retain his literary reputation. In "Memoirs of Richard Cumberland," 1807, will be found matters of interest relating to the Irish Stage and public characters in Ireland during his time.

At the time when Cumberland's comedy of the "West Indian" was being successfully performed in Dublin, the author was in Ireland on a visit to a Mr. Cottingham, a gentleman of fortune, in the town of Cavan. Relative to this visit and some theatricals in connection with it, Hitchcock in his "View of the Irish Stage" furnishes the following amusing particulars:—

"At this juncture, a company of players happened to be performing there [Cavan]. The news of his arrival being spread abroad it inspired them with the idea of seizing the golden opportunity, and whilst he remained in this country of performing his favourite comedy, which, from his being so well known and on the spot, they judged would receive every support and encouragement from his friends. Full of this project, they set about studying the parts with the greatest alacrity and the most profound secrecy, and the poor author one evening had the unspeakable mortification without the least notice to find the comedy of the 'West Indian,' written by R. Cumberland, Esq., and a long puff about its success in London, and the two houses in Dublin, announced for representation the next night. This, though not very pleasing, he was not only obliged to submit to, but was also forced to attend this very extraordinary exhibition. About an hour before the time of beginning, a servant came to keep place for Mr. Cottingham, Mr. Cumberland, and a large party. This news struck the company into the greatest panic. They had not an idea of his coming to see them, and almost petrified with fear, that single circumstance drove the little they did know entirely out of their heads. A little before the beginning Mr. Cumberland and his party came into the theatre. The appearance of it did not prepossess him much in its favour. It was a temporary building, as is usual in such cases, erected in the town hall. The stage, raised two or three feet above the audience part, a range of seats divided by a thin partition, into a pit and gallery. In the front of the pit was Mr. Cumberland seated; the house crowded, every expectation raised on high, and all eyes turned on the author, when the curtain drew up, and discovered the manager seated, for Stockwell, at a table, with a book of the play before him to refresh his memory in case of accident, and Stakely waiting; when, casting his eyes on the author, it effectually finished him. Had not Mr. Cumberland been there, he might, in the theatrical phrase, have bustled through; that is, he might have known the purport of the part and where the original language failed him, substituted his own, so that an audience unacquainted with the piece could not easily perceive where he was at a loss; but here, conscious of his being deprived of that resource, the little he did know, his fear hindered him from recollecting; and, instead of several pages of description developing the plot of his marriage, and the birth of the hero of the piece, he said 'Belcour is arrived.' Confounded at this unexpected speech, Stakely after some hesitation replied, 'I believe he is, sir.' Another long stand ensued when on popped Mr. Barrett (well known in the theatrical world) for Belcour. Now this gentleman, though possessed of much merit in a peculiar line, and an admirable figure for a Jew in the 'School for Scandal,' was by no means calculated in any respect to convey the idea of a young, volatile, elegant, fiery West Indian. At the appearance of Mr. Barrett, for this peculiar favourite of the author, the whole house, in spite of their respect for the author, burst into an involuntary and loud laugh, which continued for some minutes, and served to increase the confusion of the actors. But Mr. Barrett was very perfect, and, soon recovering himself, the scene went on with tolerable composure, till the appearance of Major O'Flaherty, who, as the company was rather thin, was obliged to be doubled by the manager with Stockwell. This new and unexpected stroke produced another roar of applause, and entirely completed the confusion and vexation of the poor author, who, unable to bear this cruel mangling of so excellent a comedy, would have withdrawn, but was prevented by his numerous friends, many of whom having seen it in London and Dublin, enjoyed the present representation with the highest pleasure. The more laughable and ludicrous the performance was, the more acceptable it was to them, and the more they enjoyed it. Not

so with Mr. Cumberland; his feelings were too much alive to be able to bear it with patience, and heartily glad was he when the conclusion of the play gave him leave to depart."

During the season of 1771, ere the comedy of the "West Indian" was withdrawn, Dawson determined upon another stroke of theatrical generalship, which he accomplished to the surprise of the town and the discomfort of poor Mossop.

## LECTURES ON ARCHITECTURE.\*

(Continued from page 86.)

A ROMAN house was substantially the same wherever it was built. The principal feature, the atrium, was the precursor of the hall of later times, and has influenced, more or less, almost the whole of the purely secular architecture of after-ages. We have seen, on former occasions, how the hall gained in importance as civilisation advanced, up to a certain point, and then declined, as the desire for privacy arose, and softened manners assumed an influence over Mediæval customs. When the rule of the Romans ceased in these islands, their successors adopted their modes of building, and followed the precedents left by them. The covered atrium was not only the chief part of the house, but even the house itself. Divided, as the Saxons were, into clans and families, and living together for mutual protection, no great care was given by them to fortifications, and a mere wall of defence surrounding their dwelling, or groups of dwellings, appears to have proved sufficient for safety. This simplicity of life did not last, and our Saxon ancestors were rudely awakened from any dreams of security by the Norman Conquest. The tenure of the Norman was that of a conqueror, bound to maintain his footing by force, as he had gained it. He came from a country more advanced in civilisation than Britain. Proud, haughty, and chivalrous, he, like the Roman, expected to impose his will on others, to follow theirs with them. This is the time of Norman keeps and strongholds; the house had become a castle. The rule of might was symbolised by the architecture of the day. Strength and solidity were the qualities aimed at, and these were secured by the forced labour of a subject population. The great castles are thus one more of the many illustrations of the dependence of architecture on the combination of human labour. However elevated may be the thought of the designer, it must be embodied in a concrete form to become architecture. Leaving artistic considerations even out of the question, there is always something impressive in the result of vast labour, much as there is in the sight of some great multitude. We seem to realise in such cases some of the thoughts and trials of others, our own ideas appear small and petty in presence of grandeur, and there is, moreover, the small still voice ever whispering in our ear, that "all is vanity." The old stones crumble, the walls totter and fall, change is upon everything. Myriads of men have passed away, and still, from generation to generation, the great problems of humanity remain the same, unsolved, if not insoluble. The great castles are thus, like the Egyptian pyramids, emblems of the power of man over matter, although, in as far as they display beauty of art, they are, to that extent, less striking as simple illustrations of the principle. Heaps of stones are nothing, but when piled up, as we see them on the banks of the Nile, they are perhaps the most conspicuous symbols possible of brute force and despotic authority. Castles, however, differ from the Pyramids, in that they were built for use, and needed for security. They were required to be defensible, not only against the tumultuous attacks of an ill-armed peasantry, but also against engines of war. Our business to-night is with the structures of the Normans, and to them we will return.

To the Normans we owe many fine works of art in our cathedrals, as at Peterborough, Durham, Canterbury, and many other places. They brought with them to their new possessions wealth, knowledge, and skill; for much of the ornamental portions at least of these buildings must have been executed by foreign workmen. Exercising the rights of conquest, they added to their riches by exactions and confiscations, and thus became able to command the labour of thousands. Beginning with imitations of forms familiar to them at home, their architects, being cut off from Continental associations, soon developed a character of their own, and introduced special forms and features, which distinguish the Norman style as naturalised in England. These novelties were, however, reserved for the great churches, and scarcely apply to the castles, which we are now considering, and which, as is usual with military buildings, followed pretty strictly the rules of precedent. . . . .

One of the most celebrated examples of this mode of work is to be found in the castle of Coucy, on the north-eastern frontier of France, which has been described and illustrated by M. Viollet-le-Duc. The donjon was erected, it is believed, about the year 1220, and the circular towers, or turrets, at the same time. Portions of the entrance gateway, and the great halls, were rebuilt early in the fifteenth century. The entrance was protected by a moat, over which a bridge led to the gate of the castle. The bridge was not a permanent structure, but was built with a wooden gangway resting on piers, so that it could be removed in case of a siege. Although as you will have noticed, the date of Coucy is later than that of the Norman castles in England, it will, I think, be interesting to examine it, as presenting to us an example of the extent to which architectural art came, in process of time, to be applied to such utilitarian structures as fortresses. In earlier days, nothing of the kind was attempted. Even mouldings were almost unknown, and no sculpture, save perhaps an occasional heraldic device, was to be seen. On the other hand, every attention was given to the strength of the walls, and to the quality of the masonry. Here at Coucy, we find we have been led up to a work of importance, as a specimen of architecture. It is not only an engineering achievement; but also a work of architectural art.

We may, perhaps, recall in passing, how we have advanced to this combination. The square plan was abandoned in favour of curves for purely scientific reasons. Similar causes led to the adoption of the circular form, and we thus arrive at an ultimate result, dictated altogether by utilitarian considerations. In this case, however, they have not led to ugliness, but to the reverse; and from that circumstance, we may perhaps find something to reflect upon. We know but too well, how matters with us seem almost naturally to drift into ugliness, so that artists have reason to dread the very name of utilitarianism and science.

The château of Coucy is interesting, moreover, as occupying an intermediate rank between the great castles of the country and the citadels of the towns. In the former case, we find, as I have already pointed out, large areas of land enclosed by defensive works. To them any army could retreat, and considerable internal space within the walls was, therefore, needed. There must not only be the keep or castle proper, but extensive buildings were further needed as barracks for the soldiers, storehouses, and the like. If there should be a town near to such a stronghold, it might be connected by intermediate works, and care would be taken to command it from the towers. High roads and streams would be, as far as possible, brought under the control of the garrison.

Such castles as these possessed, as a matter of course, high political importance, and could not be safely neglected by any army of invasion, as from them expeditions could sally forth at will to intercept the communications of their enemy. It was neces-

sary, therefore, for the latter to resort to a siege, and this was, as we have seen, a very slow, and not very hopeful process in the Middle Ages.

The other class of fortresses, or town citadels, include those which were constructed to defend or overawe a city or village, to control a river, or to provide a refuge for small bodies of men, the retinue of some bold chief or baron. They often formed part of the city itself, so that their defences were necessarily influenced by the situation and peculiarities of the latter, and are thus frequently connected with the city walls, which were incorporated into the system of defensive works. In such cases the castle became a citadel, a place of refuge in case of siege, which might be held by a small band of resolute men, after the town beneath had surrendered, or had been taken by assault. The town was indeed an item of the whole scheme of fortifications, and the castle the heart of the whole.

These two descriptions apply to the two broad distinctions of Mediæval castles, but between them there are of course many varieties, and the castle of Coucy may be looked upon as a connecting link. Here, the town is so far connected with the castle, that it forms a part of the whole fortification. On the other hand, the castle, with its donjon or keep, is complete in itself, and isolated from the city by wide spaces, a gateway, and defences. Although available for defending the town, the castle is independent, and can stand alone. The whole space inclosed by the walls is of the usual irregular character, in accordance with the peculiarities of the ground, but the citadel is, as we have seen, of the severely regular form which the scientific military engineering of the day prescribed.

To pass to the castle from the town, it was necessary first to force the gateway and its lateral defences. This done, the large open space, or Place d'Armes, would have to be traversed, fully exposed, as it was, to the missiles of the castle, flowing with full force from an elevated position. If we suppose these difficulties surmounted by the besiegers, they would yet have to pass the great moat which separates the Place d'Armes from the works of the castle, and not until success had crowned their successive efforts could they even approach the great donjon, the key to the whole stronghold.

Occupying the highest ground, this great work commanded the town, the Place d'Armes, the castle itself, with its outbuildings of all kinds, and the backs of the outer lines of fortifications. Completely circular on plan, having an external diameter of some 115 ft., and being upwards of 200 ft. high, it presented equal defensive strength on every side. It was also surrounded by a ditch, with a drawbridge, in connection with the entrance, which was at some distance from the ground, and strongly defended. The interior was divided into three stories, each nearly 75 ft. in height, and beautifully vaulted in stone, the arches being acutely pointed. The walls were of great strength, those of the lower story being some 30 ft. thick. The walls of the lowest story were almost solid, the only apertures being the entrance before alluded to, and a few narrow slits of windows, at a great height from the ground. Here was a deep well, and space for storage of food, and munitions of war. A winding staircase led to the upper stories, and some other accommodation was also provided in the thickness of the wall, near to the sally-port.

Passing upwards, we find the middle story, with a very similar apartment, about 50 ft. in diameter, but here there was a fireplace, and we may conclude that it was the chief dwelling apartment. There are several windows, and, in the case of one of them, there was a chamber, or private entrance to a passage, communicating with a small sally-port, distinct from the chief entrance. This sally-port being at a great height from the ground, would give access by means of a drawbridge to the backs of the parapets of the surrounding walls, so that the soldiers in the donjon could at any time pass on to the other and

\* By Professor E. M. Barry. Second Lecture. Delivered at the Royal Academy, London.



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lower defences of the castle. The sally-port being small, and thus placed, did not call for special defensive works, such as those to be found at the principal entrances, which consisted of iron railings, two doors, and a portcullis.

The whole space within the walls is occupied by the great vaulted room, but there is also a second small private chamber, probably for the lord of the castle, cleverly constructed in the thickness of the wall. The windows are few and small, and apertures were evidently grudged by the architects. Ventilation was probably obtained by leaving the central ring or eye of the groining open, an arrangement obviously convenient also for hoisting goods and projectiles from the lower stories to the battlements. These apertures, being exactly over each other, would also admit light, as well as promote ventilation, and it may be remarked that the amount of light which can be admitted in this manner is very great. It is, in fact, the mode adopted by the builders of the Pantheon at Rome, and few who have seen the striking interior of that building can have failed to notice, probably with some surprise, the satisfactory quality, and abundant quantity, of illumination obtained from a small area of opening in the very centre of the semicircular dome.

The arches of the vaulting at Coucy have fallen, or have been destroyed, but enough remains in the springing-courses, corbels, and other architectural details, to show that the work was of fine character and pure design, and the capitals in particular were well carved and moulded. It will be perceived, from the illustrations, that the whole work presented a striking architectural character, somewhat at variance with our preconceived ideas of the severity and sternness of castle-building. The ground-floor is remarkable from its solid and monumental character, well befitting its position. The intermediate hall being lighter and more spacious, has an especial fitness for its intention, as a chief place of habitation; while the third story has a character quite different from the others, and deserving some special notice. This story consists of only one room, with a vaulted and groined roof like those below; but at this point the designers evidently considered that it was no longer necessary to maintain the walls of the strength and thickness which they had adopted for the lower stories. Retaining, therefore, the same width of chamber as before, between the piers of the vault, they have formed great recesses in the outside walls, and have connected the recesses by arched openings. By this means they have obtained a spacious gallery surrounding the entire chamber, constructed in the thickness of the wall.

This arrangement is of clever and ingenious construction, and is, moreover, very effective architecturally. The galleries are built in solid masonry, but there are not wanting indications that wooden supports, carried from pier to pier, were employed to project the gallery-fronts as far as the columnar piers of the groining. With these subsidiary features, the galleries formed a striking addition, not only to the architectural effect, but also to the size of the room, and the accommodation which it afforded. It might have been used for the place of assembly of a numerous garrison, as it could hold, for this purpose, some 1,200 men.

It is to be noticed, in examining the construction of this story, that the piers and arches are carefully arranged, on the soundest principles. The piers are placed in the direct line of resistance to the thrust of the arches of the groined roof; and although the recesses are large, full advantage is taken of the thickness of the walls to obtain piers of the best shape to resist lateral pressure. The whole building is a conspicuous example of success, obtained by the architect, working hand-in-hand with the military engineer, and being, in all probability, one and the same person.

Passing upwards from this handsome and

interesting hall, by the winding staircase which gives access to each story in turn, we come to the roof, surrounded by a continuous wall pierced with openings, which served the purpose of embrasures. The space above the groining is covered with flags, which may have been further protected, wholly or in part, by lead. There is a considerable fall outwards, to enable the water to flow off readily, through apertures specially provided for it. At this level, there are massive corbels built into the walls on the outside, and projecting outwards, on which it is supposed timber work may have rested.

Such was the donjon of Coucy, a monument of defensive architecture, of proportions almost suited to giants, and rivalling the works of the ancient Romans in the grandeur of its conception and the massiveness of its execution.

It was an embodiment in stone of the power and pride of its owners. Their heraldic device was sculptured over the door, and represented a combat between a man and a lion. To be lion-hearted was an appropriate boast of the Barons of Coucy, who delighted in their proud motto,—

"Roi, je ne suis,  
Prince, ni Comte aussi,  
Je suis le Sire de Coucy."  
(To be continued.)

### THE ROYAL IRISH ACADEMY.

At a meeting of the Academy on the 16th ult., Sir Robert Kane, M.D., F.R.S., President, in the chair, an interesting report was submitted of work done and being done, including the publication of several parts of the "Transactions." A large number of papers appear to have been read in different departments of the Academy. The following is the principal portion of the report submitted:—

"The work of lithographing the most valuable of our Irish MSS. makes steady progress. Of the Book of Leinster, 312 pages, being more than three-fourths of the whole, have been printed off, and 80 additional pages are on stone. The Irish scribe pursues his work with remarkable diligence, and it is expected that the remaining portion will be completed before the summer of 1879.

The whole of the triple text of the *Felire* of Oengus having been printed, Dr. Whitley Stokes applied for and obtained the consent of the council to have the Glossarial Index, which is to be added, printed in Calcutta, with a view to save the time lost in the transmission of proofs between this country and India. It appeared, however, on trial, that the work could not be properly executed there. All the manuscript of the Index is now in the printer's hands, and a large portion of it in type; and the issue of the entire work may be expected in the course of the present year.

The question pending between the Academy and the Government for a considerable time prevented progress being made in the publication of the *Annals of Ulster*. This difficulty having been removed, arrangements have been made for the immediate commencement of the printing, and it is hoped that the council will be able, in their next report, to announce that a substantial portion of the work has been completed.

Several interesting objects have been added to the Museum within the year. Amongst those procured by purchase are a very fine lunula of gold, a torque of the same metal, and some weapons of bronze. The donations include an ancient canoe, and a singular trough-shaped vessel of oak, sepulchral urns, and other articles presented by Mr. J. G. V. Porter, of Belleisle. For the Strong Room a moveable mahogany glazed case has been constructed, in which will be deposited some of the most important of our ancient manuscripts. The painting and other work now in course of execution in the crypts and supplemental library will, when completed, effect a substantial and much-needed improvement in those portions of the Academy's premises.

The council thought it their duty to address a memorial to the Lord President of the Committee of Council on Education, calling his attention to the composition of the committee for the administration of the grant of £4,000 now annually voted by Parliament for the encouragement of scientific research, and urging the inadequacy of the representation of Ireland on that body. In taking this step, they acted in conjunction with the Royal Society of Edinburgh, and, besides supporting a similar claim

put forward by that learned body, the council prayed that this academy should have in future two representatives on the committee, instead of one, as had been previously arranged. In reply, we were informed that, after communicating with the Royal Society, the Lords of the Committee of Council on Education had approved of the academy having a second representative in addition to its president; and the council accordingly nominated Mr. Robert Mallet, a distinguished member of the academy, to act in that capacity on its behalf.

The academy was recently invited by the Lords of the Committee of Council on Education to nominate three persons to act as members of the Board of Visitors, constituted, in accordance with Lord Sandon's letter of the 8th of February, 1876, to aid their lordships in the administration of the new Science and Art Museum to be founded in Dublin, as well as of the Natural History Collections and the Botanic Gardens, which are to be associated with that establishment. The academy accordingly nominated the Rev. John H. Jellet, Samuel Ferguson, LL.D., and Sir Robert Kane, to act on the board.

A proposal was made to the council of the academy in April last by the council of the Royal Dublin Society for a conference between the President and Science Committee of the Academy and twelve members of the Royal Dublin Society, whose names were given, to consider certain suggestions which had been made by a committee of the Royal Dublin Society, the most important of which was, that 'it would be desirable that a society devoted exclusively to science should exist in Dublin.' A correspondence between the two councils took place on the subject, the result of which was that the council of the Royal Dublin Society declined to accept the conference under the conditions which the council of the academy thought it necessary to prescribe."

### ADVERSARIA HIBERNICA,

#### LITERARY AND TECHNICAL.

POETRY has been wed to love and nature, to sentiments, feelings, passions, and sundry other virtues and vices, for long centuries; but to science, art, and handicraft, comparatively speaking, not often. Within the last half century poets and rhymers in various professions and trades have evidenced a technical muse, and some have successfully introduced mechanical operations into their poetry, and from science, art, and handicraft have drawn very graceful and forcible similes. The fields of all the arts or crafts are very wide ones; and, if it were needed, the various branches could supply ample materials for a true poet to utilise. Mere trade terms or allusions in themselves would not be of much use, or prove very attractive; but good descriptive poetry on art subjects, properly handled, and well-chosen and applied similes, would undoubtedly command and please many readers. There is scarcely a trade but has produced rhymers, if not poets, and several of the trades very excellent poets, though poetry has almost always proved a profitless field for workmen depending upon their labour. Indeed, many a craftsman might say with our countryman Oliver Goldsmith, in his "Deserted Village":—

"And though, sweet Poetry, thou lovest maid,  
Still first to fly where sensual joys invade;  
Unfit, in these degenerate times of shame,  
To catch the heart, or strike for honest fame.  
Dear charming nymph, neglected and deery'd,  
My shame in crowds, my solitary pride,  
Thou source of all my bliss, and all my woe,  
That found'st me poor at first, and keep'st me so."

In the *Irish Magazine* for October, 1810, before us as we write, there is a poem headed "An Irish Artist's Complaint, or the Degradation of his Country." The artist, so called, as appears from his own lines, was an "obscure joiner." The poem is not above the mediocre class, and is full of political allusions. In fact the bard tells his readers, though he does

"The regions of the Muse invade,  
And write in verse unconscious of her aid,"

He is

"Untaught by nature and unskilled by art."

His modesty, therefore, if not his poetical merits, entitles him to a hearing; and as he brings into his verses the instruments of his craft, we will quote a few of his lines by way of illustration. We will remark, in doing so,

that far better and far worse poetical joiners preceded him and succeeded him:—

"An obscure joiner, who, in cutting sticks,  
The Poet's labour whimsically mix,  
And view with friendly or sarcastic smile  
The medley, which depressive toil beguile.  
With Planes and Chisels, Odes and Essays lie;  
With Chips and Shavings, written fragments fly;  
With Plans of Houses, scribbling plans design.  
'Tis Joiner's work to various things combine,  
Who, while he frames a Door may frame a Verse,  
To lighten labour, and dull thought disperse."

The poet or rhymist in the above instance merely drags in mechanical names and allusions in a commonplace way. Terms appertaining to art and handicraft are not here as it were dovetailed together, embodied, and yet diffused, giving to the whole composition the spirit and force of true poetry.

In the *Dublin Argus* (alluded to in the articles appearing in this journal, "Notes on the Rise and Progress of Printing and Publishing in Ireland") some poems appeared from artisan contributors, full of technical terms and trade operations, very cleverly introduced and aptly applied. The late John Frazer (J. De Jean) in several of his poems introduced similes with much force and judgment and fine effect. His trade and cognate trades suggested many words and operations which, by skillful weaving, were made to give originality and vigour to his poems. Technical language, however, is a dangerous weapon in the hands of an unskillful operator unacquainted with the arts and trades, and the terms used in connection. We have known some of our present-day poets who are accounted of the first class who have used words and terms many of which they were unable to properly understand or rightly apply, and, as a consequence, they made a "muddle" of their poetry; but their high-class readers were as well informed as themselves, and what they did not understand they were content to let it be inferred that they did.

"The Forging of the Anchor," by Samuel Ferguson, besides exhibiting the mastery of a true poet, evidences considerable grasp and acquaintance with the operations of the blacksmith and anchorsmith, and the poem suffers nothing but gains much by adept handling. "The Village Blacksmith" of Longfellow is a good poem in itself, though it does not embody much of technical terms or language which may not be found among ordinarily-educated and experienced writers of the unprofessional classes.

We might quote various extracts from the poems of Irish and British writers in illustration of our subject, but we think our readers sufficiently understand our meaning throughout. It is quite possible to identify a man by a certain style of writing, and many writers, poets, and essayists may be identified, and their trade and profession also, by the use of certain words inseparable from their avocations, arts and handicrafts.

While archaeologists and antiquaries are busy in excavating relics of the Trojan, Grecian, and Roman past, Irish students of history have an undoubted right to vindicate her history by every honest and clearly-sustained proofs, by documentary and architectural evidences. Assyrian, Egyptian, and other Eastern antiquities excite an interest in many minds; and whatever can help to illustrate the text of Homer meets with keen attention on the part of scholars or other cultured minds. Men will believe the most plausible theories betimes concerning relics and "finds" in the East, while those which turn up in this island of the West are viewed with credulity, and, whenever believed to be of native production, are said to belong to a very late period. The mists and prejudices of the early part of the present century are, however, clearing away, and, despite the dogmatic and unsupported assertions of native and foreign detractors, Ireland is gradually taking her place in the list of nations who can boast of a very high antiquity and a very early civilisation in literature and the arts.

Keating and O'Flaherty may have mixed much legend with facts; but, independent of

what is purely legendary, they have also stated much which has been corroborated over and over again since their time. We ourselves have no doubt that many matters which still appear doubtful in the pages of Keating will turn out to be true, or possessing a large substratum of truth. Taking O'Flaherty's text, we are told that Cormac, the 126th monarch of Ireland (in the year 264) exceeded all his predecessors in magnificence, munificence, wisdom, learning, as also in military achievements. His palace, we are told, was most superbly adorned and richly furnished. Of course we must admit what constituted superb embellishments and decorations in Cormac's time was far different to what the term implies in modern days. It is perhaps a rude magnificence in some respects, but as it exceeded all his predecessors in costliness and grandeur, it must be measured accordingly by an early standard. Gold and silver utensils there certainly were, and warlike implements and handicraft tools of iron. Sundry craftsmen existed, who forged and hewed and built; and, as Cormac was a literary prodigy, no doubt his supervisors and artificers benefited by his wisdom and instruction. Cormac published books—that is, he had books compiled, copies made of them, and distributed; and he endowed three schools at Temor or Tara. In the first were engaged the most eminent professors of the art of war; in the second, history was taught; and in the third, jurisprudence. There is a poem, says O'Flaherty, consisting of 183 distichs of these three universities of the grandeur of Temor in the reign of Cormac, and of his encouragement and achievements. This poem is to be found in O'Duvedan's book, folio 175. Under Cormac's direction the Psalter of Tara was compiled, containing the national archives of the time, and in it the series and periods of the supreme and provincial kings are compared with contemporaries, the taxes and tributes of the provincial kings to the monarchs, also the bounds and limits of each county, from a province to a territory, from a territory to a village, and from a village to its subdivisions. Who will say Cormac's work was not worthy of his age or his country, and if it does not reflect honour on the early civilisation compared with other European nations?

Pendant to the above we will cite from O'Flaherty's "Ogygia" the further achievements of the regal Cormac, for the benefit of the younger students and lovers of Irish history. There are adults, too,—Celt and Saxon—whom it may interest, even though they may be sceptics in matters relating to early Irish history:—"His literary productions in manuscript written in Irish, yet extant, prove him to have been an able lawyer and antiquary; his laws, enacted for the public good, which may be seen in his manuscript statute books, were never abridged while the Irish monarchy flourished. He passed a law, to be observed by himself and his successors, that these ten should never leave the king's presence, viz., a grandee, a druid, a judge, a physician, a poet and historian, a musician, and three domestics, with this difference only, that a bishop was substituted in the place of a druid. And this custom, after the introduction of Christianity, was so strictly adhered to that there was scarcely any grand principality in Ireland in which there was not an episcopal see, including a diocese, within its limits; and lands were assigned certain families, each of which was to be employed in one of the above-mentioned offices to the sovereign of that principality. In his retirement at the latter part of his life he wrote a book inscribed to his son Carbry, entitled "Royal Precepts," or an essay on the education of a prince. This book is extant in the works of O'Duvedan, folio 190 A, wherein he speaks to his son, 192 B. There is another production of Cormac's alluding many things to the number three. . . . Fithel was his supreme judge, whose leucubrations and jurisprudence, and those of his son Flathra, are to be seen yet in the libraries of lawyers. He is said to

have been the first who introduced mills into this country from Great Britain." Specimens of "Cormac's Glossary" (with notes) will be found translated in the first volume of the *Dublin Penny Journal*, 1832, by the late John O'Donovan, and some remarks on the antiquity of corn mills in Ireland.

H.

## ECCLESIASTICAL ART-WORK.

### THE PARIS EXHIBITION.

THE higher kind of ecclesiastical art will be well represented by the exhibits of Messrs. Jones and Willis, of Birmingham, who are sending a carved reredos, and an embroidered altar cover, both of very great beauty. The reredos has been designed by Mr. Scott Champion, architect, of London, in the early Flemish style. The elaborate erection rises to the height of 15 ft., is 15 ft. 6 in. wide, and 6 ft. deep. Its effect as a whole is sufficiently striking; but it is only upon a close inspection of detail that the nature of the structure is fully revealed. When this is done, the spectator scarcely knows which to admire most, the happy ideas of the architect, or the painstaking care of the workmen. One aim of Mr. Champion has been to relieve the general appearance of the reredos by the introduction of various kinds of wood. Accordingly, while the larger part of the erection consists of carved oak, insertions have been made, in suitable places, of carvings and columns in cedar, walnut, ebony, rosewood, satinwood, &c. The centre of the reredos consists of a cedar ogee crocketed arch, with a canopied and vaulted niche to contain a cross, the background of the niche being richly carved and diapered in oak. Above, on either side of the niche, are two small and carefully-carved statuettes representing the patron saints of France and England—St. Denis and St. George. This is rather a happy idea, being, in part, a not ungraceful compliment to the nation to whose keeping the whole work will in a short time be entrusted. The statuettes stand upon pedestals, supported by columns of ebony, with carved caps and bases. There are perforated traceried panels at the sides, in cedar, and the centre portion of the reredos proper terminates in two handsomely carved pinnacles with four gables, surmounted by angels minutely carved in oak. From the centre above the niche, rises a crocketed spire, with a carved oak cross on the top. The grouping is well done, and the outline of the flying buttresses forms a somewhat graceful feature in the design. The super-altar is elaborately carved with flowing tracery, and has a background of satinwood. The side wings have traceried panels in the upper portion, while in the lower there are panels ingeniously carved in the "linen pattern." The frontal, it should be mentioned, is 7 ft. long and 3 ft. high. Of the altar-cover much might be said, for the embroidery is the result of many months' work, and the effect produced is marvellously rich yet chaste. All the colours are subdued, and are blended together in perfect harmony. The super-frontal has a rich crimson ground, on which eleven large flowers and ten intermediate smaller flowers are embroidered, the latter being sprayed with gold. Between the super-frontal and the main portion of the cover is a fringe of beautiful silk, containing all the principal colours employed in the embroidery. The altar frontal itself is a beautiful piece of work. The groundwork is of white figured silk, specially designed and woven. There are four orphreys, each having a groundwork of crimson velvet, embroidered with the conventional rose leaf and flower, and each having in the centre a panel, with a background of cloth of gold, containing a figure. St. Paul and St. John are placed on the left, the former holding the usual emblematical sword. The natural appearance of the drapery of St. Paul, the clear and delicate markings of the features, with the threads running smoothly into each other, and leaving a perfectly even surface—all impart to the figure so striking a resemblance to a water-colour drawing that the real nature of the production is only to be ascertained by a very close inspection. This seems to be by far the best piece of work on the cloth. St. John is represented holding the emblematical cup, and the other figures are St. Mary, with a lily plant in her hand, and St. Peter, who is, of course, in possession of the keys. Around the head of each is a nimbus, cleverly worked in golden thread. The figures are only ten inches high, but the amount of work expended upon them must have been immense, for the silk thread with which the embroidery has been done was only a degree thicker than when it left the cocoon. In the centre of the altar frontal is the figure of Our Lord, holding a sceptre of gold. The background is blue, with a rainbow worked in coloured silks, while rays of glory, done in gold, surround the upper part of the figure. This central

"panel" takes a quatrefoil shape, and is surrounded by a worked border. Between the orphreys and the centre figure the space is treated with a very elaborate diaper and golden thread and coloured silks upon the white-figured background. Four stars of crimson, green, and gold fill up the spaces in the corners, and blend harmoniously with the diaper. Along the bottom of the altar frontal is a fringe similar to that on the super-frontal, and containing all the colours used in the frontal itself. The whole of the embroidery on the cover, as well as the building and carrying of the reredos, have been done on the premises of the firm. In addition to these exhibits, Messrs. Jones and Willis have prepared for the exhibition several charming designs in Brussels carpets and church mats. From their metropolitan establishment in Euston-road, the same firm are sending a pair of elaborate sanctuary gas-standards, a very handsome lectern, a pair of wrought-iron gates with examples of wrought silver and gold work.

### THE ARCHITECTURAL ASSOCIATION (LONDON.)

ON the 22nd ult. Mr. J. D. Matthews read a paper before this association "On the proposed Model Bye-Laws issued by the Local Government Board, in relation to Public Health, Safety, and Comfort." He commenced by saying:—

You are aware that with comparatively few exceptions, building operations in towns and their suburbs are regulated by certain bye-laws, which are drawn up by the Local Board of Health or other body based generally upon the bye-laws in operation in some other places, with such additions or omissions as may be required to suit local circumstances or opinions, and these, when decided upon, are submitted to the Home Secretary for his confirmation and thereafter become law in accordance with the powers given by the Public Health Act. The result of this is that around large cities and towns where there are many local boards, each with its own bye-laws, it is almost impossible to know what are the requirements of each place, and what is in accordance with the regulations of one place is in direct opposition to those of another; thus through ignorance, expense and annoyance are often caused to intending builders.

The necessity of an Act which shall apply generally throughout the country was prominently brought under the notice of the profession by Mr. Honeyman, of Glasgow, in a paper read at the conference of architects in 1876, which, after discussion, resulted in a resolution being passed, urging the Council of the R.I.B.A. to consider the subject of general building regulations for the United Kingdom, and to communicate with the architectural societies and the Local Government Board. A copy of this was forwarded to the Local Government Board, who at the time were drawing up some model bye-laws. In due course an invitation was given to the council of the Institute to consider the draft, promising that any suggestions should receive attention. A committee was appointed, of which I had the honour to be a member, and after several meetings and much careful consideration, many alterations were suggested, and the draft as amended was forwarded to the Local Government Board. These were, doubtless, carefully considered by the board, and shortly afterwards the Model Bye-Laws, in their present form, were published. Although altered in many particulars, there are yet some clauses which remain in their original form, and will, I think, be found to be unworkable.

According to the announcement, my paper is to treat of the bye-laws in reference to public health, safety, and comfort; but, as the latter depends in a great measure, upon the two former, I will omit special reference thereto; and as most of us are acquainted with the Metropolitan Building Act, upon which the bye-laws as to buildings have been based, reference will, from time to time, be made to that Act.

It will be as well to consider the subject under the following heads, viz:—

1. Construction of streets.
2. Foundations of buildings.

3. Construction of walls, chimneys, and roofs, for securing stability and prevention of fires, and for purposes of health.

4. Space about buildings to secure a free circulation of air and ventilation.

5. Drainage of buildings.

6. Construction of water and earth closets, privies, ashpits, and cesspools.

7. Notices and drawings for carrying out the works proposed.

8. Mode of administration.

The first section applies to *streets and roadways*, and allows 36 ft. as the minimum width, instead of 40 ft. as required in the metropolis, and in cases where a street is less than 100 ft. in length it may be 24 ft. in width. One end, at least, of every street shall be open, and of the full width of the street. Permission is granted for passages or approaches for the purposes of removing ashes, soil, &c.

The want of definite and adequate powers in the metropolis to require really *good and sound foundations for houses* has led to special clauses in the second part; and as so much depends, not only for the stability of the structures themselves, but also the health of the inmates, on proper foundations, anything to remedy the present defects must be looked upon with satisfaction. The requirements are that every wall shall rest on the solid ground, or upon a sufficient thickness of good concrete, or upon some solid and sufficient substructure as a foundation. The two adjuncts are important, both being omitted in the Building Act. This clause will also deal with the strength and arrangement of girders, brusses, story-posts, and columns, all of which ought to have as much supervision as foundations.

The desirability of keeping the damp from entering a dwelling-house is generally admitted, and therefore the clauses requiring a damp-course in the walls, and a layer of asphalt or concrete over the whole surface or site is good; but a thickness of 4 in. as a minimum instead of 6 in. would, I think, suffice, especially as Portland cement concrete is insisted upon, but this is hardly necessary, when the substructure is rock, or even hard gravel.

The position of the damp-course requires better definition. At present, it is required that it shall be beneath the level of the lowest timbers, and not less than 6 in. above the surface of the ground adjoining such wall; but if the house has a basement surrounded by earth, the damp-course under the wood floor would be of little service.

I think a clause requiring that all stories below the ground level shall have on the outer sides open areas or sufficiently ventilated and dry areas, or the walls coated with asphalt, or other material impervious to damp, should be inserted.

To prevent houses being built on sites which have been made up with rubbish containing animal and vegetable matter, such as the contents of dust-bins, street sweepings, &c., it is provided that no building shall be erected on these sites until all such matter is removed. This requirement would, I fear, in many cases be found impracticable, as it would prevent the utilisation of many sites, and besides, would not meet the desired purpose. As, for instance, a basement might be excavated, and the foundations carried to the solid, but the lower story, surrounded on its four sides by most injurious matter, which would at once defeat the object in view. I could instance rows of houses built upon rubbish filling, which is not the worst foundation structurally.

It appears to me that if a good layer of concrete, say 12 in. thick, be spread under the house, and an open area all round, say 2 ft. wide, walled and paved with concrete, or in the cases of houses built in a row at the back and front only, the case would be met, and with better results.

In the construction of walls it is enjoined that they be of good bricks, stone, or other hard and incombustible materials, properly bonded and solidly put together with good mortar, composed of good lime and clean sharp sand, or other suitable material, or

with good cement, or of cement mixed with clean sharp sand. This definition is an improvement on that in the Building Act, which simply requires that walls shall be put together with mortar or cement, leaving the matter open as to what is mortar. And as we all know that mortar may be good and bad, it oftentimes causes a district surveyor much anxiety as to whether he can prove to a magistrate that, although the material may be bad, it is nevertheless *not* mortar.

A difficulty in the Building Act which requires footings to be in height half the thickness of the wall at its base, is overcome by requiring them to be two-thirds of the thickness, e.g., a one and a half brick wall need only have footings 6½ in. high by the Building Act, and some ingenious builders have endeavoured to obtain this by means of two courses, whereas by the alteration three courses are a necessity. In the case of a new wall abutting on an old one, the projection of the footings on that side may be omitted. This is an advantage in one respect, as it gets over the difficulty of easement on a neighbour's land; but whether it is good for the new wall is a question.

The definition of a party-wall is very important. In the metropolis, a wall is only party where it divides buildings on each of its sides; but it is now proposed that if a wall is used as a separation of adjoining buildings in *any* part it shall be a party-wall its whole length and height, by which means all windows beyond the back walls, or above the roofs of adjoining buildings, will be prohibited. Doubtless, the provision is a good one as a guard against the spread of fire, but one that will greatly interfere with the utilisation of some buildings in towns that have already easements over other properties.

Another important alteration is the definition of a cross-wall, which is required to be carried up to the top of the topmost story, instead of, as at present, two-thirds the height of the external walls. This appears unnecessary, as in the case of rooms in the roof the cross-wall would have to be carried to the tie of the roof, whereas its use for strengthening the external walls would cease at the wall-plate. The cross-wall has also to be solid for two-thirds its area in each floor instead of one-half.

The schedule for the thickness of walls is generally somewhat in excess of that required by the Building Act. The necessity of this is not apparent, as it is very rare that an accident occurs from the insufficiency of the thickness of a wall if built in accordance with the tables, but generally from the materials used in the construction; and therefore if these are improved the walls may be considered to be of greater strength than now required. No more than two stories is allowed for walls 9 in. thick, whereas the Building Act permits 9-in. walls to be carried to a height of 25 ft., which affords the opportunity of forming three low stories within the height.

For some reason, not apparent, the heights of the stories are measured from floor-line to floor-line, which, besides making the set-off at an inconvenient place, will limit the height of stories inclosed with 9-in. walls to 9 ft. 3 in. or thereabouts, instead of 10 ft.

The definition of a topmost story is "the uppermost story in a building, whether constructed wholly or partly in the roof or not, and whether constructed or adapted for human habitation or not." The effect of this clause would be that in every queen-post roof with a height of 7 ft. between tie and straining beam, or in any roof with the same height between the feet of rafter and the collar, but where there is no intention or probability of its being used for habitable purposes, the walls would require to be of the thickness sufficient for one story higher than the number of floors. In buildings of the warehouse class, which includes all buildings not used for dwelling, the least thickness prescribed for the walls, whatever their length, is 13½ in. at the base. This appears unnecessarily stringent, as small one-story workshops or stables, and even small lobbies and porches to public buildings, hardly need walls this thickness for the purpose of stability.

## THE ROYAL DUBLIN SOCIETY.

At the evening scientific meeting of this society several valuable and interesting papers were read in the three sections. In that of Physical and Experimental Science, among other papers one was read by Professor Barrett (in the absence of Mr. W. H. Barlow) on the Logograph. This is an instrument which records speech, and makes it visible. The instrument used is a small speaking-trumpet about 4 in. long. Professor Barrett said he had asked Mr. Barlow to send the instrument to the meeting, but he had been unable to comply with the request, as it would require his personal superintendence to fit it and work it. He had promised, however, to bring the instrument to the meeting of the British Association and exhibit it to the Royal Dublin Society.

The Chairman (Rev. Dr. Molloy) said that if it was really possible that each individual sound of the human voice should be represented by means of this apparatus, by a special characteristic mark, the instrument was really a most wonderful one. It would be interesting, in a scientific point of view, and in a practical point of view it was still more important. If it came to be of practical use they should all have to learn a new alphabet. The signs were written as clearly and distinctly as Chinese or the characters of any other language with which they might not be familiar. They would, moreover, be able to write all their letters through the logograph, and writers for the Press, instead of having to take up a pen and look for ink, &c., would simply have to speak their thoughts into the logograph and send the signs to the printer, who, of course, would also have to learn the alphabet.

In the Natural Science Section, among other papers, the Rev. Professor Haughton, F.R.S., read a communication "On the Mineralogy of the Counties of Dublin and Wicklow." His paper was one of a series of papers relating to the Counties of Dublin and Wicklow, which were in the programme of business for the section that evening. All were parts of a plan which the committee for receiving the British Association in Dublin in August next had formed for bringing out a Guide Book of the natural history of the counties of Dublin and Wicklow, as the two districts most accessible on that occasion. None of the papers pretended to any originality, and it was not intended to submit them now in any detail. The British Association had met here twice before at intervals of twenty-one years. On each of these occasions a Guide Book, such as that now projected, was brought out at the expense of the Reception Committee. It was now felt to be important to take stock of the progress made in their knowledge of the natural sciences with respect to the two counties during the last forty-two years; and the projected Guide Book would form a permanent record on the subject. His own paper related to one or two important discoveries which had been made in the mineralogy of the counties of Dublin and Wicklow during the last twenty-one years. The most remarkable of these was in connection with the granite of Dublin and Wicklow, which had undergone a very careful examination during that period. They had not much to add with respect to slate-rock or limestone, except that in the latter a species of animal bitumen had been found. With respect to the granite, it had been long supposed that the Leinster granite was composed of quartz, potash, felspar, and black and white mica only. The existence of a second felspar in granite had been first suggested by Sir Robert Kane. That conjecture was confirmed by Dr. Apjohn; and, finally, Dr. Westropp had succeeded in discovering a soda felspar in the granite. He (Dr. Haughton) had himself pointed out, fifteen years ago, that the granite of the Mourne Mountains contained the two kinds of felspar; it was known that the same thing was true of the Cornwall granite, and the result of the discovery now mentioned was to prove

that all these granites belonged to the one group.

In the Science applied to the Useful Arts and Industries Section, Mr. A. MacDonnell, C.E., read a paper on "The Transmission of Power." He said that power was usually transmitted by shafting or by wire ropes. Sir William Armstrong's method of transmitting power by the hydraulic machine had been applied to machinery in railway stations, coal hoists for loading ships, opening dock gates and drawbridges, &c. Air pressure was generally used for working hauling machines in mines and for coal cutting. It was used in Mont Cenis and St. Gothard, and in places where air was useful for the transmission of power. But the most modern application was for putting brakes on railway trains. These were the Clark and Webb brake, the hyperline, the Westinghouse, and Smith's vacuum brake. The Westinghouse was a pressure brake and automatic; Smith's vacuum brake was put on by producing a vacuum by a steam ejector on the engine. This would stop a train when running at the rate of 45 to 50 miles an hour, in from 17 to 23 or 24 seconds, according to the state of the weather, and in a distance of from 900 to 1,200 yards. The Great Southern and Western Railway Company of Ireland had 28 passenger engines fitted with this description of brake, and the Great Northern and the Midland Great Western companies were about to adopt it.

In justice to the society under its new regime, we must add that a good deal of activity has already been evidenced, and several of the papers read are equal to any read on similar subjects in the London Royal bodies.

## CORRESPONDENCE.

## ST. STEPHEN'S GREEN.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—With reference to the very interesting leader in your issue of 15th inst., I would wish to add a little, if I may do so without being intrusive.

On reading that article I looked about me to see whether my rather humble library contained anything worthy of attention, and in "A View of Ancient and Modern Dublin to the year 1796," dedicated to Mrs. Peter La Touche by John Ferrar (author of the "History of Limerick"), I find the following:—

"Mercer's Hospital stands on the site of St. Stephen's Church,\* whose parish is now united to Bride's. From that church it is imagined Stephen's Green had its name, which is one of the largest squares in Europe, being very nearly an English mile round. It was walled and planted with a double row of trees in 1670, between which is a gravel walk kept in excellent repair. It is very well watered, and, including the walks, contains 17 acres 2 perches. In the centre is an equestrian statue of George II. by Van Nost, and a flat piece of meadow, which is extremely rural and pleasant in summer, and which is the property of the Lord Mayor. Harcourt-street, which contains the spacious town residence of Lord Clonmell, York-street, Leeson-street, and Baggot-street, which are all new streets, add very much to the public convenience of Stephen's Green."

Is this museum in existence?

Whilst on the subject of Stephen's Green, I made the following measurements; and although being from the Ordnance Survey Map, and consequently only approximate, they may be sufficiently near for rough purposes, and not without interest to your readers:—

\* "This extensive and good institution was founded in 1734, by Mrs. Mary Mercer, and contains sixty-two beds. It was incorporated in 1750, and is supported by subscription. Here is a school for teaching anatomy and surgery, under the direction of five professors, Messrs. Hartigan, Lawless, Deane, Creighton, Archer; and lectures regularly delivered on these subjects from November until May. The museum is worth notice, and contains two small Egyptian mummies, brought over by Mr. Whaley, who got them near Jerusalem—a child with one body and one heart, four arms and four legs; and a double cat, preserved in splints of wine, with several natural curiosities, &c."

poses, and not without interest to your readers:—

## STEPHEN'S GREEN.

|            | Face Line of Houses | Railings of Square | Content                       |
|------------|---------------------|--------------------|-------------------------------|
| North side | Feet 1,355          | Feet 1,150         | 21a. 1r. 16p. Statute Measure |
| East side  | 1,085               | 875                |                               |
| West side  | 1,065               | 850                |                               |
| South side | 1,345               | 1,145              | (12a. 0r. 33p. Irish)         |
| Total      | 4,850               | 4,020              |                               |

## MERRION SQUARE.

|            | Face Line of Houses | Railings of Square | Content                       |
|------------|---------------------|--------------------|-------------------------------|
| North side | Feet 1,220          | Feet 1,025         | 11a. 2r. 32p. Statute Measure |
| East side  | 660                 | 480                |                               |
| West side  | 670                 | 480                | (7a. 0r. 33p. Irish)          |
| South side | 1,220               | 1,025              |                               |
| Total      | 3,770               | 3,010              |                               |

In Rocque's Map of 1756, the four sides of the Green are named "Beaux Walk," "Frenche's Walk," "Monck's Walk," and "Leeson's Walk." Merrion Square was not at that time laid out.—Your's, &c.,

JOHN S. SLOANE.

Clontarf, March, 1878.

## "THE VICEREGAL STATE CARRIAGE."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—On the 8th of November, 1841, in company with a great many other youngsters, I followed the procession of the then new Lord Mayor, Daniel O'Connell, M.P., from the City Assembly House in William-street to Dublin Castle. The Lord Lieutenant was "not at home," and, after a short delay to recover their equanimity and astonishment, the crowd proceeded to Green-street.

Whilst in the Upper Castle Yard I had an opportunity of seeing and comparing the two "gold" coaches, as during some repairs to the stables the viceregal state coach had been brought into the Upper Castle Yard, it was surrounded by a critical crowd, in which were many tradesmen, who knew what they were saying; and, although so many years have passed, I can remember that the preference as to workmanship, &c., was given to the municipal carriage. The appearance of the two was generally very similar, but there was a more artistic freedom in the lines and ornamentation of the city coach. I have never had an opportunity of seeing the viceregal carriage since.

Now, sir, my reason for troubling you is, that in your numerous circle of readers there may be some who would kindly afford information on this subject, for I cannot meet amongst my acquaintances a single person who ever saw the Castle coach, or is aware that it had existence. One gentleman told me I was dreaming, for if there was such a vehicle the king would have used it on his visit to Ireland in 1821, and he would have seen it then. I would also be glad to know whether the city state coach retains all the ornament it had originally, for judging from very casual glances that I have had of it, "few and far between," it does not appear to be so grand as it was in my childhood's days—some fifty years ago. J. S. S.

## THE "LIA FAIL," OR STONE OF DESTINY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—To the Jewish writers only are we apparently indebted for a rational history of the first appearance in Ireland of this remarkable stone. Whether the account given by them be a correct one or not, the fact remains that in those days of "Darwinism," &c., it is still regarded with veneration, her Majesty Queen Victoria having been crowned upon it, as most likely her successor will also be. For a long time before the birth of Christ, when Ireland was governed by a supreme monarch, this stone was used here as a coronation chair. In modern times the descendants of the Irish race by whom Scotland was first peopled, borrowed the

stone from its then custodians, the Irish nation, in order that their first king would be crowned upon it; and it was first used in Scotland at the coronation of Malcolm (Ceanmohr), A.D. 1057. The Irish monarchy having been for a long time split up into provincial kingdoms, it is more than probable that no section of the Irish people took an interest in having their coronation chair returned, or had national spirit to claim it, and it was so allowed to remain in Scotland, where all the sovereigns who succeeded Malcolm were crowned upon it, until Edward III. of England, in the fourteenth century, seized this "stone of destiny," and had it removed to Westminster Abbey, where it was used at the coronation of all the English monarchs succeeding him. The seizure of this coronation chair was one of the means adopted by Edward to break the succession of the Scottish monarchy. When Edward speculated on such a result, his Norman-French proverb, "*L'homme propose, et Dieu dispose*," must have been forgotten by him; but whether or not, in the beginning of the seventeenth century, James VI. of Scotland ascended the throne of England as James I., and the throne has ever since been occupied by his descendants, proving the truth of the Scotch prophetic verse—

"Or fate is false, or where this stone is found  
A king of Scottish [Irish] race will there be crowned."

J. K.

### RE ART AND ARCHITECTURAL "RESTORATION."

At the annual meeting of the Art Union of Ireland, held during the late month, in the Royal Hibernian Academy, the chairman, Viscount Powerscourt, touched upon the question of art progress and restoration. Some of his remarks are open to criticism; as a whole they are worthy of publicity, and for sake of the subject and the objects advocated we give them. After some prefatory observations, the speaker said:—

Since I last addressed you measures have been taken for the more effectual preservation of the ancient architectural remains throughout Ireland, which will, it is hoped, prevent any more removal or destruction of these monuments by ignorant or careless persons, who have for generations been permitted to deface the relics of former times, and in many cases to use their materials in the construction of modern buildings. The Seven Churches at Glendalough, in Wicklow, for instance, have lately been successfully restored by an eminent member of the Royal Hibernian Academy, who, with an intelligence that does him great credit, had searched for and found on the very spot many of the stones for composing the ancient buildings, and has put together and replaced them carefully in their original positions. Turning from these antiquities to a more modern period in Irish historical remains we must commemorate an instance of public spirit in a leading citizen of Dublin—Mr. Roe, who has emulated the noble example of Sir Benjamin Lee Guinness in the nearly completed gorgeous restoration, at his own sole cost, an immense sum of money, of Christ Church Cathedral and its attendant buildings. There the old work has been taken up with such a loving hand under the genius of one of the most eminent living architects of the world, that the new fabric far surpasses anything in the original structure, and we shall soon have a fane here in Dublin, which, for its dimensions, will compare in beauty with almost any ecclesiastical building in Europe, and it has the additional merit of having been carefully and scientifically studied after the examples of ancient Irish ecclesiastical art. I am not aware that in any country in the world have two metropolitan churches been taken in hand, each by one individual, and restored to more than its pristine glory, as St. Patrick's and Christ Church Cathedrals have been here in Ireland. This is a high mark of the feeling for art, and also for religion which exists amongst us. Government has also shown some encouragement for art in this country in the past year. We shall soon have here in Dublin a science and art museum, which cannot fail to be of the greatest use as a means of instruction to students, and of bringing within easy reach, for their examination and emulation, all kinds of artistic work of the best kind, without any expense to those who wish to study and improve themselves. I have seen in Paris and other continental cities crowds of artizans, especially on Sundays, examining and consulting among themselves over the priceless gems of art collected in their museums, many of them perhaps unconsciously educating themselves and turning their minds and imaginations to high and good objects and pursuits. I also hope that the

museums and collections of all sorts in the United Kingdom may soon be thrown open free on Sundays, to the great and certain benefit of the many who have little or no opportunity on week days of taking advantage of these institutions as a means of intellectual instruction and recreation. There is a noble example of a man, whom I think we may claim as an Irishman, at all events by property—I mean Sir Richard Wallace—who intends, I am told, if he has not already done so, to admit the public to view his unrivalled art collections on Sundays in London. I have endeavoured in these remarks to take a broad view of the interests of art generally, and not to confine myself altogether to local matters, in the expression of feelings in which more people than those actually assembled here must take an absorbing concern. I am the more glad to be here to-day to pay tribute to the munificent act of your president, who has since last year presented the Academy with a handsome additional apartment for purposes of exhibition, and a well-lighted and commodious atelier for the study of the antique and the living model, at a cost borne entirely by himself, of about £700. I am sure that every one interested in the growth of Irish art will join me in offering him the very best thanks for his liberal and meritorious gift to the Academy. I hope that the public spirit that he has shown will be an incentive to the students to raise themselves, by accurate study of form and colour, to a higher level than they have yet attained. I see great improvements upon former works in many instances, and the Irish school is certainly advancing. I hope that the artists of Ireland will continue their efforts, especially in the drawing of the human figure, until they arrive at the highest pitch of excellence. The Art Union, whose claims I wish to urge more especially upon your notice to-day, is intended as a means whereby those who wish to acquire works of art should have an assisting medium towards purchases. It is not intended that the purchases should be limited to the amounts of the prizes, and I hope that those who are fortunate enough to draw the winning numbers will remember this, and use their prizes in part payment for some of the works which present themselves for their selection, and not confine their taste to the comparatively small amounts represented by the prizes, but come forward boldly to assist the cause of art beyond the actual sums they may win, and so give the works of artists at all prices a share in the benefits of the Art Union of Ireland. I hope next year we may have a thousand guineas to distribute.

### THE LATE SIR GILBERT SCOTT, R.A., ARCHITECT.

The death of this eminent architect, which took place suddenly on the morning of the 27th ult., of heart disease, was heard with feelings of universal regret throughout the British Islands. His loss will indeed be great, and will be keenly felt not only by the profession and the Royal Institute of British Architects, of which he was a brilliant ornament, but by all lovers of architecture and the arts everywhere. The architectural works of the deceased are very numerous—works entire and restorations; and all may be said to be confined to the domain of Gothic, of which he was the leading and principal representative of the hour. This great English architect was born at Gawcott, Buckinghamshire, in 1811. Among his earliest works of note are the Martyrs' Memorial, at Oxford, 1841; the Church of St. Nicholas, at Hamburg; and the Cathedral Church of St. John, Newfoundland, erected in 1848. He was appointed official architect to the Dean and Chapter of Westminster, 1849, architect of the new Foreign Office and the Memorial of the late Prince Consort. He was elected A.R.A. in 1852, and R.A. 1860. Among his "Restorations" were the cathedrals of Ely, Lichfield, Hereford, Ripon, Gloucester, Chester, St. David's, St. Asaph, Bangor, Salisbury, and St. Alban's. At the time of his death he was also engaged in several works—new and "restorations." Sir Gilbert was a past president of the Royal Institute of British Architects, and in the proceedings of that body there are several able papers on architectural subjects by him. Among his published literary works are—"A Plea for the Faithful Restoration of our Ancient Churches"; "Remarks on Secular and Domestic Architecture"; "Gleanings from

Westminster Abbey"; and "Conservation of Ancient Architectural Monuments: a Paper." Sir Gilbert Scott leaves behind him at least one son who is following in the footsteps of his distinguished father, and who has already evidenced considerable originality in his architectural designs, and executed works in the Gothic field, in which his parent was such an eminent and living worker.

### STANLEY'S FLUID PROFESSIONAL COLOURS.

As the result of experiments extending over several years, Mr. W. F. Stanley, of Great Turnstile, Holborn, London, has succeeded in producing what, we doubt not, will be appreciated by our professional brethren, viz., colours prepared for immediate use. The various colours are sold in neatly stoppered bottles containing 2 oz., labelled, and showing the tint on top. The patentee states that the objects he has endeavoured to attain are: perfect solubility, even flow, a slightly alkaline nature, so as not to rust steel instruments by contact, and perfect permanence of colour, both in the fluid and on the paper. These matters we have ourselves tested, and we have great pleasure in asking our friends in town and country to supply themselves with Mr. Stanley's Fluid Colours, by the use of which the grinding of cake-colours and the washing of palettes will be avoided. Sample bottles lie at our office for inspection.

### THE ART UNION OF IRELAND.

At the late meeting of the Art Union of Ireland, referred to elsewhere, Mr. Jones, P.R.H.A. (hon. sec.), read the following report:—

"The committee of the Art Union of Ireland, in presenting you with their annual report for 1878, do so with a feeling of great satisfaction. You may judge what pleasure it gives them to announce that instead of falling short of last year, their income shows an increase, and the amount and number of prizes exceed that of last year—being £513 against £428 for 1877. The committee look with pleasure to the fact that since 1874 a sum of £1,200 has been paid to the artists whose pictures have been selected by prize-holders, and this from the sum of £1,500 collected in subscriptions to the Art Union of Ireland, and from this you will at once see the working expenses are kept at a very low figure, and subscribers to our funds may always calculate upon 80 per cent. being allocated in prizes. Your committee think that this state of working is mainly due to the large amount of subscriptions collected by the assistant secretary, and which, consequently, come to us free of any commission for collection. Your committee feel that our best thanks are due to the agents and friends who so kindly collect subscriptions, and they would especially call attention to the kindness of Mr. Cranfield, who allows his establishment to be used as a centre for working purposes, and also for the large sum of £216, collected by him, free of all commission or expense whatever. It is now my pleasing duty, as your honorary secretary, to announce that the subscription list closed at £513 12s., which, with £8 4s. 6d. carried forward from last year, makes a sum of £521 16s. 6d. From this amount about £100 is taken for the payment of accounts against the Art Union of Ireland, including your assistant secretary's commission of 10 per cent., leaving the sum of £410 available for prizes, and which your committee have divided into the following prizes:—One at £50, one at £40, two at £30 each, five at £20 each, and sixteen at £10 each, leaving a balance in hand for the year 1879. It is with satisfaction your committee draw attention to the fact that each year they come nearer towards holding the drawing before the opening of the Academy, this year the opening having only the advantage of a few days. With a feeling of great pleasure the committee notice that in no previous year have the Art Union prizeholders had such an opportunity of selection, the pictures being of the most varied and high-class character, and as price is the only limit to guide them, they trust all who are lucky enough to obtain a prize will be able to select to their entire satisfaction, and as the money for the payment of such will long before the close of the academy have been handed over to its treasurer, they have only to claim and receive the work as soon as its doors are closed for the season."

## ROYAL HIBERNIAN ACADEMY.

## DISTRIBUTION OF PRIZES.

ON Saturday evening there was a goodly gathering in the Exhibition Rooms of the Academy, Lower Abbey-street, when the President, T. A. Jones, Esq., delivered a truly practical address, and afterwards presented the silver and bronze medals to the students who during the past session had been considered deserving of them. The President said:—

The council of the Royal Hibernian Academy has invited you this evening to witness and participate in our distribution of prizes to the successful students of our schools during the past year. The awards took place so far back as the month of July last, and consisted of one silver medal and three bronze medals, which were accompanied by money prizes, granted by the Academy as an approval of past efforts and a stimulus to increased exertion in the future. We thought it advisable that this recognition of our students' work should in some degree have more publicity than could be afforded by my presenting the awards in the council-room, but as building operations commenced soon after the visit of the Government inspector, who, in conjunction with myself and the keeper, conducted the examination, we agreed to postpone the distribution of the medals till the exhibition of 1878 had opened, and thus afford the students an opportunity of bringing their friends together on such an interesting occasion. However, as the autumn, beloved of artists, was approaching, when the successful competitors might with advantage study from the first and greatest teachers, Nature, the council with, I think, commendable forethought came to the conclusion to aid study by letting the successful pupils have the advantage of the money prizes at the time, and I sincerely hope they have made a good use of both time and money, and that the results may be apparent in the quality of the work which may be done in the session which has just commenced. We are now commencing, as I said, our session of academic competition for the present year, and I am happy to say we do so under most favourable auspices, for in addition to our medals, we can this year award a scholarship, to be named the Albert Scholarship, or prizes with the approval of her Gracious Majesty the Queen, out of the interest of about £1,000 given to this Academy for that purpose by the trustees of the Albert Memorial Fund. This £1,000 forms half of a surplus remaining after the erection of that beautiful work of art now in Leinster Lawn—a work of art which will, I hope, for years to come, perpetuate the high esteem in which the nation held the noble-minded Prince Consort, and at the same time prove a monument to the genius of Ireland's greatest sculptor, the lamented Foley. An English artist, Mr. J. R. G. Grundy, of Brinkfield, Bury, Lancashire, has also in the most generous manner (and the more generous because entirely unsolicited) placed in the hands of our council the sum of £10 to be given to the successful students of this year, and expresses his intention to continue this addition to our prize list for three years. These sums are placed in the hands, and at the discretion of the council, to either give or withhold them as it deems best; and am I too sanguine in hoping that this great and unexpected encouragement may have a beneficial effect on our students, and decide others, who may be hesitating, to join our classes and more closely devote themselves to those studies which are sure to bring their reward, but without which they can never hope to attain that proficiency so absolutely necessary as the basis of professional success? This year, also, the trustees and judges appointed for carrying into effect the trusts of the will of the late Captain George Archibald Taylor, announce the award of two scholarships of £40 each and one £10 prize to students of art who, being of Irish birth, shall have attended for twelve months a

school of art in Great Britain or Ireland. You may thus see that the year 1878 stands out in marked distinction from its predecessors, and backward as we have hitherto been, I can fairly say that opportunities are now offered which would have cheered the hearts of art students in my time, and I look forward with confidence to the results. To aid the studies of students more immediately connected with this Academy, there is now an enlarged and well-ventilated atelier at their service, and other advantages are in contemplation. All we ask of you is industry and a fixed determination to overcome the difficulties you must of necessity encounter in training your hand to obey your eye, without which ability the greatest natural perceptions are powerless. It must also be a great encouragement to our art students to know that a taste for art is slowly, but most surely, developing itself in this country, but more especially here in the capital. Our sales amount now to thousands where they used to be hundreds. Our annual exhibitions within these walls excite an interest hitherto unknown, and the increased admissions at the door and the sale of season tickets and catalogues, afford abundant proof that ere long our young artists may form a distinctive Irish school, and cease to wander to other shores in quest of that support denied them in their own in times now happily past. Another happy result of our increased prosperity, is that our sales are attracting the attention of famous artists both British and foreign, and our public have thus an opportunity of forming their tastes, and our students can study the works of men of European fame and judge for themselves, both how and why their reputations have been arrived at. There is a very exaggerated idea abroad, that magic results may be derived from study in foreign schools. The foreign artist has few advantages we do not possess, but he knows that on the solid foundation of good drawing all depends, and he works unceasingly to attain it, and does not rush recklessly into composition before he knows the very alphabet of his art. When you have laid the solid substrata, if I may so call it, of correct delineation, then a visit to foreign schools and galleries will improve your taste and school your eye; but I maintain you can acquire the mastery of form here in this city, without leaving your home and associations. You have the schools of the Royal Dublin Society to begin with, where the system of elementary teaching leaves little to be desired. You have three collections of antique statues in the Dublin Society in their school, and notably in the fine collection in the National Gallery. In any one of these you can learn all that Greek sculpture can teach you. Then you have the draped model in the Dublin Society, and the nude model here. You have some admirable specimens of the Old Masters, as they are called, in our National Gallery, and as, I said before, some of the finest specimens of contemporary art, British and Foreign, on these walls at our Annual Exhibitions, and I say—and say it advisedly—if Nature has endowed you with artistic talents, and you have industry and a determination to overcome difficulties, you can be an artist, and an advanced artist, before you ripen your judgment and mature your taste by study in foreign schools. Again let me impress on you the absolute necessity of long and careful study of the antique. In those immortal remains of Grecian art we find grandeur linked with beauty; truth and science rendered by faultless execution. We know not which to admire most—the mind that conceived or the hand that executed. There is a great deal of cant about high art, but the choice and conception of great subjects imperfectly rendered is not high art, though it bear the name in the present day. In the sublime embodiment of Grecian thought we have the true high art, and the mind must come from the study of those matchless works chastened and ennobled, and can then with safety go on to the realism of the living model, and be untainted by its not unfrequent vulgarities, if I may so speak. But, alas!

the tendency of all students, and more particularly of Irish students, is to rush at once to the study of the nude, and having obtained some success in it, to fancy their art education finished, and flatter themselves they are competent to execute works which can satisfy judges and command the market; and the most extraordinary part of it is, that the melancholy failures which are the result do not seem to have any deterring effect on those who succeed them. I have devoted most of my remarks to impress on you the necessity of good drawing. A few words of warning as to methods of execution, and I have done. The system of education at South Kensington is undergoing a complete revolution. Formerly nothing obtained recognition but elaborate finish with the point. Now, broad masses of stumping with heightened lights is the style which reigns paramount. The same tendency can be seen in the works of the great representatives of the British School, and the elaboration of apple-blossoms has given place to blotches with the palette-knife. It is an old counsel, but a sound one, avoid both extremes, "*in media tutissimus ibis*." True art will right itself in the long run, when the oscillations of the pendulum have ceased, and I would fain predict a bright future for the British School, spite of its tendencies to pedantry and eccentricity. I have not ventured on broader questions in relation to art, though doubtless it might have been more interesting to a general audience. I had proposed to myself to make the subject matter of my address a parallel between the British and French schools of the present day—a subject which might have presented many features of more general interest; but it occurred to me that as we are brought together to distribute prizes to art students, a few words to them were of primary importance. Art theories have been so ably treated by more competent exponents, and so much of the ground I must, of necessity, travel has been mapped out so carefully by more gifted explorers, I thought it better to confine myself to a few observations of a practical nature, which might possibly have some weight, coming from one who has suffered from the errors against which he desires to warn others, but who hopes that in some respects his example may not be altogether without profit, showing, as it does, that success in some degree will reward untiring industry and a fixed determination to aim at a high mark, and come nearer and nearer to it every day.

The President stated that the prize list for the previous session had not been announced before, owing to the absence of some of the principal competitors in the country. The list was as follows:—

Special Competition for the Life—First prize (Silver Medal), G. A. Brennan. Second prize (Bronze Medal), J. G. O'Neill.

Studies from the Antique—Bronze Medal, E. Henn.

The greatest number of meritorious works from the Life—First prize (£5), G. A. Brennan. Second prize (£3), W. T. Parkes.

Greatest number of meritorious works from the Antique—First prize (£5), G. A. Brennan.

The following prizes won in the session 1877-78, were distributed:—

Special competition from the Life—First prize (Silver Medal), W. F. Osborne. Second prize (Bronze Medal), J. M. Kavanagh.

Greatest number of meritorious works from the Life—First prize (£5), W. T. Parkes. Second prize (£3), W. F. Osborne.

Greatest number of meritorious works from the Antique—Prize (£3), W. F. Osborne.

For the best drawing made during the session—First prize (£3), W. T. Parkes. Second prize (£2), W. F. Osborne.

DEATH OF A MASTER MASON IN ITALY.—March 16, in Florence, a wealthy American, well known in fashionable circles in Rome. This was Mr. Thomas E. Davis, once a master mason, who amassed an enormous fortune by contracts for building houses, and settled with his family in Italy. Several of his daughters married titled persons.

### DEATH OF HENRY MACMANUS, R.H.A.

WE have to record the demise, on the 22nd ult., of this old and respected artist, at his residence, Dalkey, after a short illness. Mr. MacManus filled for many years the position of Head Master of the Royal Dublin Society School.

### DEDICATION OF A NEW CHURCH.

THE new Roman Catholic Church of the Annunciation, Rathfarnham, County Dublin, was dedicated on Monday last. It has been erected from the designs of Mr. George C. Ashlin, and is in the Early Pointed style. The interior is 120 ft. x 40 ft., and consists of nave and aisles. The nave is divided from the aisles by an arcade of four arches on granite columns, with Portland stone caps and bases. The ceiling is wagon-headed, panelled, and decorated in colour. From the principal front rises a handsome bell-turret to a height of 100 ft. The ceremony of dedication was performed by the Very Rev. Monsignor McCabe.

### PUMPING ENGINES AND PUMPS.\*

THE author discussed some new forms of direct acting pumping engines and pumps, as a question of relative cost and efficiency, illustrating his arguments by practical examples. The direct acting engine had a wider sphere of application in mining operations than elsewhere, and experience had proved it to be the best type for deep mine and heavy pumping. Until lately, the Cornish had been the only direct acting expansive engine. It was a very economical machine under favourable circumstances, but its range of expansive working was limited. Compound rotative engines had been made to do a higher duty than Cornish engines. In the early days of pumping, Hornblower, Trevethick, Woolf, and Sims experimented with compound Cornish engines in Cornwall; but these attempts had failed because the engines were single acting, and the distribution of steam was such as to lead to great thermal loss from the cooling influence of the condenser. From these and other practical defects the engines fell into disuse. To work direct acting engines expansively, certain conditions were necessary. An inert mass must be provided, which, by its inertia at the beginning and momentum towards the end of the stroke, should compensate for the diminishing pressure of the expanding steam employed in overcoming the almost uniform resistance of the pump. In single cylinder engines this involved heavy initial strains, considerable piston speeds, and a large inert mass to render a high degree of expansion possible. These obstacles were removed in the direct double acting compound engine. This part of the subject was graphically illustrated by indicator and velocity diagrams, taken from compound and Cornish engines under various conditions of working, the results being tabulated. The relative cost of compound and of Cornish engines was next compared, and it was shown that the cost of the engine and buildings was less for the compound than for the Cornish engine. The author then described certain improvements in valve gears, and discussed the construction of pumps and pump valves, advocating much heavier lifts than those commonly used. As examples, a 200-H.P. compound engine, employed underground, in forcing against a column 1,100 ft. in height, and a 600-H.P. compound engine, actuating two 20-in. plungers by spears, against a column of 700 ft., were referred to. An improved form of pump work was adopted to render such heavy lifts practicable and safe. Twenty varieties of pump valves were illustrated, and diagrams of the lift of pump valves, and others showing the shocks pro-

duced in the opening and closing of valves, were exhibited. The author also touched briefly on three questions of special interest—viz., respecting the economical use of steam, in regard to the degree of expansion, as to how greater economy might be secured, and as to the condition of maximum efficiency.

### AMALGAMATED CARPENTERS AND JOINERS SOCIETY.

*The Eighteenth Annual Report of the Amalgamated Society of Carpenters and Joiners.*—In his address to the members of this body the general secretary says he has much pleasure in being able to state that their organisation is at present numerically and financially stronger than it has ever been in any previous year; 19 new branches have been added in 1877, with 791 new members. The trade and commerce of this country (he says), as a whole, has been in a very depressed condition, and our employers have contended that the building trades were also experiencing a period of dull trade, and that their profits would not admit of any advance in the wages of their workmen. The Labour and Wages questions are ably put forward by Mr. Prior in his address; there are several points, however, to which we must signify our dissent.

### THOUGHTS ON RESTORATION.\*

ON the 11th inst. a dinner and *conversazione* took place at the Liverpool Art Club, and a paper was read by Mr. George Aitchison, B.A., architect, entitled "Some Thoughts on Restoration." Mr. Aitchison criticised and ridiculed what he termed the "Restoration Mania," which was one of the features of the day. Restoration might be described as the outward expression of the living and rampant form of imbecility. He asserted that we could not restore, if we would, and he hoped to satisfy his hearers that we should not, if we could. In support of his view he asked his audience to suppose the case of a fine church, built throughout at one epoch, and adorned with carvings and sculpture. This had fallen into decay, and the process of restoration was commenced. He held that even though the best restorers might be employed on the work, the result would be false art. There could be but a plausible suggestion of what existed, or a copy of something found elsewhere. The original work was living art, the man who designed it did so because he thought it was beautiful in itself, and proper in its place; but the man who restored it put in his new work with a very different feeling. He did so because he thought his new work might be something like the old, and whether it was beautiful or ugly was no concern of his. The same principle guided his ornament; the restorer might never have taken the trouble to think that the ornament was once a transcript from nature, made to show the peculiar beauty that struck the architect or carver. The new piece was a copy of some other old piece; it had no connexion with the church, and it represented neither old art nor new. Restoration, in fact, was architectural forgery. It was false in principle, and, even if there were no other reason, it must be false, because it was impossible. Mr. Aitchison went on to say that people did not want true restoration; they wanted their churches put into something like decent and congruous fitness for their present purpose. A restored building looked very pretty to the vulgar, but what were the feelings of the antiquary who found, with disgust, that half the work was forged? He also deprecated the restoration of pictures. In the course of his paper he said he hoped to see, before he died, a grand picture, in mosaic, on a blue ground, placed under the portico of St. George's Hall, the finest modern Classic building in the world.

### HOME AND FOREIGN NOTES.

The Victoria Hotel, Hill-street, Newry, is to be rebuilt and enlarged from the designs of Mr. William James Watson, C.E., Newry.

The directors of the Alliance Gas Company have declared a dividend of 10 per cent. A superannuation fund is to be established for the purpose of pensioning infirm officers.

THE ROYAL HIBERNIAN ACADEMY EXHIBITION.—The Council of the Academy have under consideration a suggestion to open the exhibition to the working classes on Sundays, at a reduced charge. We hope, if the boon should be granted, it will be appreciated and availed of by the toiling masses of our city.

A new organ has been erected in the picturesque church of Kill-o'-the-Grange, County Dublin. It is fitted in a neat Gothic case, harmonizing with the style of the building, and is from the factory of Messrs. Telford and Telford, St. Stephen's Green.

DUBLIN ARTISANS AND THE PARIS EXHIBITION.—The Lord Lieutenant "considers the organisation of a deputation of Irish artisans to visit and report on the forthcoming Paris Exhibition most deserving of support," and conveys to the committee his willingness to accord his patronage to the scheme, and enters his name as a subscriber of £10 towards the funds being subscribed for the purpose.

HEALTH AND SEWAGE OF TOWNS.—*The World* says:—"I have heard of yet another case of serious illness caused by the ignorant carelessness of that most ignorant and most careless of British workmen, the plumber, who, as usual, had established a connection between the water-cistern and sewer by means of an overflow pipe, and by this simple arrangement poisoned a family. As railway companies cannot carry passengers until their lines have been surveyed and approved by the Board of Trade, and as steamboat companies are subjected to a like inspection and control, I am not able to see why the speculative builder and the intelligent artisan should be free to work their wicked will, and put in imperfect drains, badly-planned pipes and other lethal arrangements for the discomfort and destruction of the British householder. If landlords had to produce certificates of sanitary perfection before they could let houses, and if the expense caused by gross neglect and 'scampering' were legally deductible from rents, we should have less typhoid fever."

THE LIBRARIES OF THE UNITED STATES.—The *New York Herald* announces that there is now completed at New York the Lenox Library, which is the most beautiful in the New World. Its founder, James Lenox, son of a Scotch merchant, died in 1870, and endowed it with a capital of £16,000 and a sum of £4,000 for the purchase of books. The value of the ground and building of the Lenox Library is placed at nearly £80,000. The edifice, which is all of white marble, rises in the middle of the Central Park. The architecture is an adaptation of the new Greek style. A large staircase leads to the principal entrance, which is ornamented with Corinthian columns of granite. The library which is capable of containing altogether 1,000,000 volumes, is composed of three storeys in the middle building and two in the wings. Three great lecture-rooms have already been completed, and also a picture gallery. Nine librarians are attached to it. This magnificent structure, which New York owes to the munificence of James Lenox, is of unspeakable value to the student and the *savant*. For nearly half a century Mr. Lenox has not ceased to collect manuscripts, books, engravings, maps, sculpture, pictures, and works of art of all species, all of which he has placed in the new Library and handed over to the public. He has spared neither time nor money to procure artistic and literary treasures which eclipse, without doubt, those which were bequeathed to their native cities by the Vanderbilts, Stewards, and Astors. In all that concerns the history of America, the Bible bibliography and Shakespearian literature, these collections fill up a void which has long existed in the public libraries of the United States. They comprise complete folio editions of ancient Bibles, which are not to be found either in the great library at Boston or even at the British Museum. Among the most interesting contents of the Lenox Library are the first folio edition of Shakespear, the Magazine Bible, Elliot's Indian Bible, the first Bible printed in America, and the complete copy of the Psalter of Bay State, which was the first book printed in English in the New World.

\* By Mr. Henry Davey, Assoc. Inst. C.E. Read at Institution of Civil Engineers, London.

\* From the *Builder*.

**THE NEWRY GAS QUESTION.**—The local *Telegraph* of Thursday has the following:—"It is with sincere satisfaction we this day announce that, after months of controversy and negotiation, and just as the Town Commissioners and the Directors of the Gas Company were marshalling their forces for the struggle on the banks of the Thames, peace has been proclaimed. In other words the gas question is settled. This most desirable consummation has been brought about by the efforts of several of our influential townsmen, and now we all breathe more freely. The Directors of the Gas Company have accepted the offer of £28,500, and the Gas Bill will now pass through Parliament as an unopposed measure. The above announcement will yield intense gratification to all who are interested in the welfare of Newry; and we warmly congratulate the Town Commissioners and the Directors of the Gas Works on the result. By the arrangement come to yesterday, a world of trouble and expense has been saved, and the gas question, that a few hours previously assumed such a threatening aspect, has happily been removed out of the region of unpleasant controversy. *Nil desperandum.*"

**THE NEW DYNAMO-ELECTRIC LIGHT.**—This light has been tested for the illumination of the great Central Hall of the Houses of Parliament. Messrs. Edmundson and Co., of this city, and 19, Great George-street, Westminster, electricians and gas engineers, carried out the lighting under the supervision of Dr. Percy, F.R.S., and Mr. J. Prim, Esq., C.E. Two specially-constructed lamps were fixed at opposite sides of the hall, one over the entrance to the lobby of the House of Commons and the other over the approach to the House of Lords. The effect was exceedingly beautiful, and although it was daylight, shadows were cast upon the floor, but not of the dark character previously observed with the electric light. The Central Hall of the Houses of Parliament, the design of the late Sir Charles Barry, has one of the most gorgeously decorated roofs in the metropolis, and heretofore has been lighted at night by gas, but the new light put up by Messrs. Edmundson and Co. completely eclipses the old. The First Commissioner of Works, the Hon. Gerard Noel, M.P., has taken much interest in this new light, and so have many other members of both Houses of Parliament; and indeed it seems only fitting that in the apartments of the highest assembly in the land, the most powerful of modern artificial lights should be used. This light, which is the same as exhibited many times by Messrs. Edmundson during the past winter at their works and elsewhere will be subjected hereafter to an official trial.

#### TO CORRESPONDENTS.

ST. STEPHEN'S GREEN.—A correspondent will find a letter on the subject in present issue. In our article in last issue the words quoted "equestrian stranger statue" should read "equestrian brazen statue." We believe the work of laying out the Green will be pushed on with expedition forthwith.

R.H.A.—Has been attended to.

C.W.—We have not space at present for a series of articles on the subject mentioned.

A CITIZEN.—We have so often stated what municipal duties are, and what should legitimately constitute the business of the body in question, it is needless to dilate upon the subject again. We pioneered the path for our daily contemporaries, and we hope they will have sufficient courage to follow in the same chapter.

J.B. (Dundalk)—A reply has been forwarded to your address.

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Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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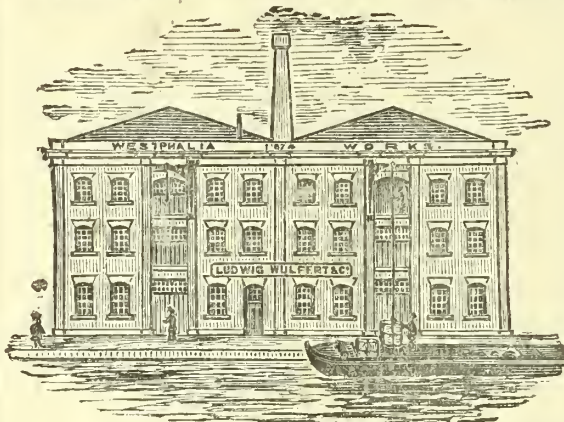
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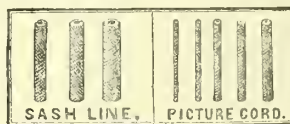
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Contents.

|  | Page |
|--|------|
| UNSANITARY ARCHITECTURE AND PUBLIC HEALTH ..   | 113  |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Twentieth Part .. | 114  |
| St. James's Church, Donagheady, Derry ..   | 115  |
| The Main Drainage Scheme ..  | 115  |
| The Bursting of a Water Main ..  | 115  |
| City Blots ..  | 116  |
| Royal Institute of British Architects ..   | 116  |
| The Archaeological Institute ..  | 116  |
| Sewage and the Public Health ..  | 117  |
| Notes on the Early History of the Irish Stage ..                                       | 118  |
| Lectures on Architecture ..  | 121  |
| The Huelva Pier of the Rio Tinto Railway ..  | 122  |
| Lord Charlemont's Demesne, Marino ..   | 123  |
| Anent "Church Restoration" ..  | 123  |
| A Concrete House ..  | 123  |
| Notes of Works ..  | 123  |
| The Embankments of the River Thames ..   | 124  |
| Ollamh Fodhla and the Stone of Destiny ..  | 124  |
| Adversaria Hibernica—Literary and Technical ..   | 125  |
| Portland Cement and Temperature ..   | 126  |
| Home and Foreign Notes ..  | 127  |
| To Correspondents ..   | 127  |

THE IRISH BUILDER.

VOL. XX.—No. 440.

UNSANITARY ARCHITECTURE AND PUBLIC HEALTH.

LET no one mistake our object in directing attention to a class of buildings now becoming quite common in Dublin, north and south, and which appears to receive no attention, directly or indirectly, on the part of the Corporation, or other central or local authority. It may be considered by some people to be an unfriendly act on our part to say a hard word against builders; but there are builders and builders, and it behoves us to be outspoken, that greater evils may not crop up and be encouraged, to the injury, not only of the practice of architecture, but of public health. We are the warm advocates, and ever have been, of all real public improvements, and are only too glad to be enabled to chronicle sound building progress in the city and provinces. We like to see the city extending, year by year, and new townships rising; but there is one thing that we do not desire to see, and that is, new streets, rows, and terraces run-up by speculating builders, employing scamping workmen and bad materials. Houses at moderate rents is a *desideratum*, but houses built to sell and not to last, built to deceive, built with the certainty of endangering the lives of those who may occupy them, and of entailing endless expense on their owners or tenants, these are building practices which we do not like to see, and which we are determined others shall see in the same light as ourselves.

During the last few days we have made a tour of inspection of a number of new dwellings on the northern part of the city, extending along the Circular-road and its vicinity, embracing portions of the Phibsborough, Glasnevin, and Drumcondra districts. We examined a number of very fairly built dwellings, but the larger number were of a character that requires an immediate inspection on the part of the Irish Local Govern-

ment Board, if the corporate authorities, or local union sanitary authority, are not disposed to do their duty. We are well aware that we have at present in Dublin no Building Act to meet a portion of the evils we have witnessed; but we have sanitary acts, with clauses quite applicable in several instances, and if enforced would strike a wholesome terror, and put an end, at least, to some of the building abuses which are so rife. The building of some houses, on account of their surroundings, foundations, and materials, could be immediately stopped, if the Borough Engineer of the Corporation was inclined to move in the matter, and received the support of the civic body. It would be the bounden duty of the Public Health Committee to move in the matter, employing the assistance of a respectable architect or builder of experience in building and drainage construction. The North Dublin Union Sanitary authority could also do essential service, if some of the members would move for the appointment forthwith of a Building Irregularities Committee to inspect the new buildings now erecting in the northern suburbs; enlisting also, at the same time, for their advice and guidance, a professional architect or engineer.

The Dublin Sanitary Association still keep harping on and hammering away on the subject of dust heaps or pest heaps, an important question no doubt, but small when compared with that of bad building construction and its various belongings in view of the future. Moving for Government inquiries, and Commissions are necessary betimes when the object and ends to be obtained are public ones and not personal; but we are sorry to say that of late in Dublin there is too much of the personal and too little of the public interest studied in the movements of a certain class of our medical practitioners. One would think, to read some of their reports and manifestoes of late, that sanitary reforms were altogether neglected until medical men received public appointments. Medical officers of public health, when they are men of long experience, are a very useful class of public officials, and they should receive all due support from the bodies they represent, but officialdom may be carried too far; and, indeed, it is being carried at present in directions where it was never intended. To prognose and diagnose in respect to certain diseases and epidemics, and to do it well, is valuable service; but, after all, without the help of sanitary architects and engineers the medical officer of health is a weak official.

We certainly do not desire to see a class of sanitary architects and surveyors made subservient to our medical officers of health, acting in the capacity of mere assistants to the former. Architects do not presume to dictate to medical men in the matter of ordinary diseases, and certainly it will never be tolerated that medical men are to become the directors-in-chief in all sanitary matters, including building construction, and that architects and engineers are to act as their clerks of works. If we read the signs of the times aright, it would appear that a certain class of medical men in this country would if they could lead public opinion in this direction. We have already quite a sufficient number of officials, medical and otherwise, quartered on the public funds without increasing the number, unless a new departure altogether is advocated in which the right men will be put in the right places and the

wrong men relegated to seats they should never have vacated.

What we have written above is necessary for the proper understanding of what follows and what forms the subject of our article. First—and we have many times advocated the same thing—we want a well-digested Building Act, applicable to the whole metropolis, on the lines of the Metropolitan Board of Works Building Act, now before parliament. Until such an act is secured for Dublin, and other chief cities and towns in this country, bad building will continue, and public health can never improve much. The good that may be achieved in one direction by the removal of dust heaps and nuisances will be counteracted in another direction by the creation of greater ones. The building of houses upon "shoots" or made-up ground, without putting in concrete foundations or damp-courses, where the former may be dispensed with, is an acknowledged evil, but the evil is still greater where the bricks used are soft or rotten, and the mortar is made up of common loam mould, or a mixture of road dirt with a little sprinkling of lime. In the new houses visited in the localities we have named, we found the mortar used in a number of houses to be what we have mentioned, and in addition the plaster (under coating) used was of a similar nature. The timber scantling comprising the joists, partitions, and roofing, were of the lightest kind, and green and sappy. We find some of the houses are occupied as fast as they are finished—indeed long before the plaster is dry upon the walls.

How many of our medical officers of health of the city of Dublin know aught of these matters, and how many of them independently are capable of pronouncing an opinion on the construction of these class of dwellings? How many of them know the constituents of good mortar, and what are the proportions of sand and lime comprising it; could one in fifty of our medical officers of health tell a really good brick from a middling one, or a middling one from a bad one? Could they tell by looking at a piece of building stone, limestone, sandstone, granite, or varieties of the same, which was the most porous absorbent or non-absorbent? How many medical men know really anything about the construction of drains or public sewers, or what size pipes are necessary for certain dwellings, and what size brick culverts are indispensable for certain localities? A choked sewer or a choked house drain of course smells, and so does a vile dust heap with decaying vegetable and animal remains. All medical gentlemen as well as those of the Dublin Sanitary Association can smell these latter nuisances, and we hope are anxious for their removal.

For twenty years past we have been preaching in these and other pages sanitary reform, yea, even at a period when medical men, in this and other cities, looked down with an affected scorn upon sanitary pioneers. We have lived down, however, opposition, and, even at the eleventh hour, we were glad to have the accession of medical men to our ranks, and can work with them or apart for the common good. There is one thing, however, we cannot submit to, and we are determined not to tolerate,—dictation and usurpation on the part of any body of men, no matter how respectable; nor will we tamely submit to see ignored, long labours and services of sanitary pioneers of the architectural profession on this and the other side of the Channel.

# NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

## TWENTIETH PART.

THERE are still a few printers and publishers who were established and carried on their business for several years previous to the close of the half century (1850), that deserve some passing notice. Some of these men, who made a name and a reputation, began in a very humble way, and their representatives need not feel ashamed of the world hearing the simple facts of their predecessors' origin and rise. The story of the printing, publishing, and bookselling trade of Dublin, embodied in that of the lives of its representatives, is full of strange pictures, sudden surprises, and weird dissolving views. Though we have already written at considerable length, and told much in our epitome, much more necessarily must remain unwritten at present. We have all through treated the subject in an impartial spirit, irrespective of creed or party, doing justice, we hope, to foreigner and native, the wildest and the most loyal, Republican and Conservative, or of whatever other party might be the person or personages of whom we have written.

Among other Catholic representatives of the printing, publishing, and bookselling trade, not already noticed, we cannot pass over the name of the late James Duffy, who, for over thirty years in the present century, carried on first the bookselling, and ultimately the publishing and bookselling business in Anglesea-street and Wellington-quay. James Duffy, and the late John Donegan, the noted watchmaker and jeweller, of Dame-street, came to Dublin about the year 1830, and both in the very humble but honest calling of packmen or pedlars. As pedlars or hawkers of various wares they continued for years, making tours occasionally into the country and across the channel. Duffy, after some time, added books to his calling, and as bibles, prayer books, and other devotional works at cheap prices were in much request, those articles were added to his stock-in-trade. Duffy made visits to Liverpool, Manchester, and other Irish quarters monthly. About the year 1837-8, Duffy took a small shop in Anglesea-street, and he joined the late Bryan Geraghty in bringing out some religious works. He continued the bookselling business in Anglesea-street up to the year 1846, but up to about 1843-4 his business was on a rather small scale. At this date the works he issued were of the cheap book kind, the prices ranging from twopence to sixpence, including such books as the "Battle of Aughrim," the "Seven Champions of Christendom," the "Lives of the Irish Highwaymen," and other kindred literature. The first good lift Duffy got was the publication of the "Library of Ireland," a series of shilling volumes, a work which owes its inception to Thomas Davis and his literary companions on the early *Nation* newspaper of Gavan Duffy. The "Library of Ireland" series extended to over twenty volumes, and it turned out a very successful literary and publishing venture. For the earlier volumes of the series there was a great demand, and the spirit of the works was well suited to the tastes of the Young Ireland school of literary aspirants and politicians. The publishing and bookselling business of Duffy having greatly increased he removed to larger premises on Wellington-quay in 1846. He first opened at 10, but shortly moved to 5, and finally to 15, where the business is still carried on by his representatives. Between 1846, and till a period shortly before his death, Duffy made three or four efforts at establishing a successful periodical, but none of his magazines, though ably written, and having a number of clever contributors, had a long run. His first serial venture was the *Irish Catholic Magazine* about 1847, and his subsequent ones, the *Fireside Journal* and the *Hibernian Magazine*, a monthly journal of literature, science, and art. The last-named publication relates

to a period later than what we intend to include, although incidentally it is necessary to mention it, as we have perforce to take cognizance of the publisher's death a few years afterwards. Duffy was firmly established in the publishing and bookselling business by 1850, and by that time had published a number of works, national and religious, chiefly in native fields and by Irish writers, clerics and laymen, several of whom are dead, and a few who still survive in our midst, or are fighting the battle of life in London, America, and Australia. In 1846, among other works, Duffy published the "Spirit of the Nation," containing the songs and ballads by the writers of the *Nation* newspaper of that day. In this volume the original and ancient music was arranged for voice and pianoforte; the volume is 4to. The original edition contains an appendix, tracing the derivations and etymology of Irish names, &c., compiled by the late William E. Hudson, who is said to have paid £300 for printing the work, which he presented to Duffy immediately after. Patrick O'Kelly's translation of Abbe MacGeoghegan's "History of Ireland" was issued in parts by Duffy, about 1844; and, in subsequent years, several of Carleton's tales and stories, and volumes of Irish tales and poetry by Irish writers. Excellent editions of the Douay Bible and Catholic prayerbooks were issued from the publishing house on Wellington-quay, the mechanical get-up of which was equal to the works issued from English and Scotch firms. The Rev. C. P. Meehan, who broke ground in the early *Nation*, and in one of the volumes of the "Library of Ireland," and who still lives in our midst, had all his works, historical and ecclesiastical, published by Duffy; and, indeed, his volumes added to the reputation of the house. We cannot enter into long details of matters near our own times, and of affairs connected with the late publisher's property and business of quite recent date. The late Mr. Duffy was a native of Monaghan; four of his sons are dead, but three daughters survive their father. He died on the 4th of July, 1871.

The late W. B. Kelly, of Grafton-street, publisher and bookseller, commenced life in quite as humble a way as the celebrated Luke White, of Union memory, already noticed, or even as James Duffy. His early beginnings in bookselling was in travelling through the country with his wares, selling and buying, and saving betimes, with a view to the future. Getting tired at last of journeys on the foot, he determined to make a stand and start in the city in the second-hand bookselling line. In Adam-court, off Grafton-street, within a few yards of his late extensive shop he erected a bookstall, and after a short while rented a small house or rooms in the court. In a few years his venture having turned out lucky he took the shop, and speculated pretty largely in rare historical and antiquarian works. Patrons grew in number, and business increasing, new as well as old works were added to the publisher's stock. During the forty years or upwards he was engaged in the bookselling trade, many changes took place in that business in this city—great houses collapsed and small houses thrived apace, but of both there were many melancholy failures. Kelly held his ground as a bookseller, and having a practical knowledge of his business, and knowing how to buy in a cheap market valuable antiquarian works, sold them advantageously. He bought extensively betimes in London, and was entrusted with many commissions in this country to secure certain rare works, for which he was paid his own price. Among the periodical publications issued by Kelly was the *Irish Quarterly Review*, 1851-57, 9 vols. This was an excellent native periodical containing a vast mass of varied matter of interest to Irish readers generally. In this periodical appeared a series of articles on the "Streets of Dublin," which subsequently were embodied by their author, Mr. J. T. Gilbert, M.R.I.A., in his "History of Dublin." Numerous excellent essays and reviews appeared in the *Irish Quarterly Review* by well known native

writers, and several notices of artists, dramatists, poets, orators, &c. We may incidentally mention here that two of the last works issued by the late publisher were the "Ecclesiastical Architecture of Ireland to the Close of the Twelfth Century," by the late R. R. Brash, M.R.I.A., and two volumes of a new edition of Archdall's "Monasticon Hibernicum," edited with extensive notes by the Rev. Patrick F. Moran, D.D., Lord Bishop of Ossory, and other antiquaries. The late Mr. Kelly was a Roman Catholic in religion, but he was generally respected by all classes of his fellow citizens. Shortly before his death he opened a branch establishment, for the sale of his rare historical and antiquarian books, at 4 Lower Ormond-quay. The publisher died at his private residence, Sandymount-road, on the 14th of June, 1877, after a long and painful illness, in the 60th year of his age, leaving a widow but no children. He was interred in Glasnevin Cemetery. After his death his valuable collection of books were auctioned; and his old shop in Grafton-street is in the possession of others. Some of Mr. Kelly's late assistants are now in business for themselves, and we believe are doing a successful trade in the same line as the late worthy old bookseller and publisher, whom for long years we had known as one of the old literary landmarks of Grafton-street.

Although a still living printer in our midst, the name of Pattison Jolly deserves a passing note, on account of the number of years he is engaged in the trade, and through his connection as printer with the late James Duffy's publications. Mr. Jolly printed and stereotyped the volumes of Duffy's "Library of Ireland," and several other works. During Duffy's residence in Anglesea-street Mr. Jolly was his opposite neighbour. He has executed a large amount of excellent printing, extending over a period of between thirty and forty years. For a considerable time back Mr. Jolly has carried on his trade in the large premises in Exchange-street, for many years previously occupied by the Griersons, the Queen's printers in Ireland, of whom we have given particulars in former papers.

As we incidentally mentioned the name of the late John Donegan, the watchmaker, in Dame-street, in connection with that of Duffy, a word or two may not be entirely out of place here, although Mr. Donegan was not a literary man. For a number of years in Dublin it has been currently reported—and the statement has never to our knowledge been denied—that John Donegan assisted more than one national newspaper to tide over its difficulties in "hard times." Whether the recipients of his bounty would like to acknowledge the fact it is more than we know. The revived *Nation* of Charles Gavan Duffy in 1849 is said to have been assisted by him more than once. If this be true it is to the credit instead of the discredit of the worthy old citizen that the fact should be known apart even from the question of party or national politics. In later times than 1848-9 national newspapers and periodicals have been assisted to live in Ireland by patriotic merchants and citizens.

Among Dublin newspapers not already noticed, the *Comet* started about 1831, and running to two or three volumes, is worthy of note. Its articles and poetry were signalised by much boldness, and it made a fierce war upon the tithe system. The *Comet* may be said to have been the *avant courier* of the *Nation* of Davis and Duffy, though it preceded it by several years. The story of the *Comet*, its contributors and their club, is told in the "Green Book" of John Cornelius O'Callaghan, so it is not necessary to enter into details here. From the office of the *Comet* newspaper in Colloge-green was issued that once much-spoken-of, and rather remarkable volume, entitled the "Parson's Horn Book," 8vo, 1831. The first edition of the work is now becoming scarce. It contains a number of comic cuts, portraits, &c., and taken into connection with the newspaper, it will afford an insight into the kind of literary and political warfare that were waged at the

period by Irish journalists against what were considered great grievances. About the same period was published in Dublin, and continued up till about 1835, the *Dublin Satirist*. Its name bespeaks its mission, and it appeared to have fulfilled it perhaps too well, or rather too ill for many including its projectors. Political satire had many patrons in the first half of the present century in Ireland, and newspapers, magazines, and pamphlets were used for effecting certain objects and ends that could not be obtained otherwise. A little satire from an educated pen is useful betimes, but low scurrilous abuse and personalities should never be tolerated. The first *Paddy Kelly's Budget, or a Pennyworth of Fun*, 1832-6, was a serial that dealt in a good amount of satire and scandal that appeared to find favour with a certain class of Dublin citizens, upwards of forty years ago. Apart from the gossip and scandal ventilated in the *Budget*, it contained occasionally other interesting matter. It gave rise to many imitations for a quarter of a century after, but none of them were at all equal to the original *Budget*. It was only necessary to become a subscriber to the *Budget* to secure immunity against personal attack. The faults and failings, the oddities, eccentricities, the beauties and the deformities, the virtues and the vices of the people, particularly amongst the middle and lower classes, were a stock in trade for the scribblers in the *Budget*. If one neighbour fell out with another, if a lass jilted, and a beau forsook his belle, the *Budget* was sure to hear of it immediately, and in hearing it obtain a new subscriber who intended forthwith to vent his or her injured or spiteful feelings in the Penny Scandalmonger. *Paddy Kelly's Budget* might be called by some a witty journal, but it was a low class wit that signalled its pages, and every imitation of the original periodical descended lower and lower, until the public refused any longer to encourage or support such publications. Satire, lying, and "black mail," however, did not die out with *Satirists* or *Dublin Paddy Kelly's Budgets*. We had newspaper proprietors and journalists, who, years subsequently, were ready to prostitute their papers and their talents in writing up a bad cause and writing down a good one, in supporting a government or writing it down on all and every occasion, whether its measures were good or bad.

Previous to 1850, in the present century, some few attempts were made to found a truly comic journal, but we do not remember any of them living beyond a few numbers. Indeed one or more of them died with their first or second issues, and were born and dead before many of the public knew that they had existed. A journal named *Punchinello* made its appearance from an office in Fleet-street several years ago (we forget the exact date), but it died immediately. The caricatures that signalled Dublin life between forty and fifty years ago, and which might be seen in printsellers' shops, north and south of the Liffey, supplied the place of the comic journal. Crowds of persons hourly surrounded the printsellers' windows, cycling and ogling these amusing caricatures, and passing their opinions thereon. The working man or woman who could not read could see, and as each had tongues to ask, they generally found an obliging old gentleman or younger man about town to inform "what it all meant." These were the times when the printers of almanacks and street ballads in Cook-street, Meath-street, and other southern quarters did a brisk trade in dying speeches, last declarations, and melancholy lamentations in prose and verse. These were the times when public characters abounded in low life as well as in the upper walks. "Cantering Jack"—i.e., Kildare Jack—ran against the mail coaches. Owney Morris marched like a city marshal or usher of the white rod before the hearers of the great city merchants and shop-keepers, or those who were generous to the poor in life, including Owney himself. These were the times when Blind Biddy or Peggy, with her babe in her arms, and Blind Sadler warbled

and howled their plaintive ditties, or fierce Repeal or war songs. These were the times when Michael Moran (Blind Zosimus) walked the flags singing sedition, high treason, and preaching Magna Charta to his Milesian brothers, whose eye-sight was not affected like his, and whose practical sympathy he was sure to obtain. The ballad printers helped the above, and a score or two more public characters, to earn a livelihood. The old blind clarionet player, with his little dog holding a cap in his mouth for the halfpence, has long departed. How feeling and mournful was it not to hear him giving the "Last Rose of Summer." The old bard with the bag-pipes, and he of the harp and the white locks, like the Druid under the oak tree, are vanished; and fiddlers by the dozen, whose faces were as well known in the streets of Dublin as the hero of the Boyne in College-green. Gone, aye! all gone; and last, though not least, the old booksellers of the pavements and the dead walls, they, too, are departing.

"Art is long, and time is fleeting,  
And our hearts, though stout and brave,  
Still, like muffled drums, are beating  
Funeral marches to the grave."

We, too, will be departing perhaps one of these days; but while we live let us hope, and while we can let us snatch back the fading memories of the past, and spare a note among our other "Notes" for the remembrance of those erratic outsiders who afforded a fund of amusement to the old citizens, in years when the printing, publishing, and bookselling trades of Dublin were powerful and were worthily represented.

#### ST. JAMES'S CHURCH, DONAGHEADY, DERRY.

This church, of which we give an illustration in present number, is intended to accommodate 300 persons. The foundation stone was laid on the 25th of July last. The material of walling is rubble whinstone from a neighbouring quarry. Dungiven freestone is being used for dressings, spire, &c. Mr. John Keunedy, of Derry, is the architect; and Messrs. Colhoun Brothers, Derry, the contractors. The cost will be about £2,900.

#### THE MAIN DRAINAGE SCHEME.

THE Citizens' Main Drainage Committee have issued a report of their labours on the head of the above measure. The statement is rather too lengthy for us to re-produce, but we must say on the whole it appears to be a fair account of their services. We regret to say that they were not efficiently supported by the citizens and ratepayers, and expenses have been incurred which will have to be liquidated. We trust that those who can will assist the committee to satisfactorily close their labours or continue them if a necessity should arise for carrying their works further. The following is the concluding part of the report:—

"The result of the labours of the committee has been that the main drainage tax, which was levied from 1871 up to the establishment of the committee, has been got rid of, and with it the Bazalgette scheme, and the city has been saved from the burden of a debt of £500,000, or, perhaps, by the time the work would be complete, of £1,000,000. By the Chancery suit the Corporation has been shown that it cannot with impunity violate the law or set aside the rights of the ratepayers. The effect of this is shown, and will continue to be shown, by a reduction in the expenditure of the citizens' money in promoting and opposing and watching Parliamentary bills.

The committee, however, did not confine itself to the merely negative course of opposing the Bazalgette scheme. It drew up and introduced a bill for the session of Parliament in 1875, framed with the view of providing for Dublin and the adjoining townships a really representative and efficient main drainage board, constituted somewhat after the model of the Metropolitan Board of Works, by whom the main drainage of London was carried out. And it proposed to entrust to this new main drainage

board the carrying out of whatever conclusion might be arrived at by the Royal Commission, which the committee at that time hoped that the Government would have been willing to appoint. Owing, however, to the course taken by Government in reference to the Royal Commission, and the opposition given the bill on some technical points on standing orders, the proposal of the committee fell through.

In March, 1877, the committee made another effort to promote a settlement, of a portion at least, of the main drainage question, in connection with the Rathmines and Pembroke main drainage scheme which was at that time before Parliament. At the request of the committee, its chairman, Sir Arthur Guinness, convened a private conference of the representatives of the townships, of the Chamber of Commerce, and of the citizens' committee, to consider whether clauses might not be introduced into the bill promoted by the townships, whereby the Corporation would be empowered to connect the drainage of the south side of the city with the proposed outfall for the townships. Negotiations with the Corporation ensued, and in the Act, as passed, power was conferred on the Corporation to make arrangements with the township drainage board, within three months after the passing of the act, for taking advantage of the new outfall sewer for the use of the city. But the Corporation have allowed the time to elapse without securing for the south side of the city the very inexpensive outfall which, at the suggestion of the citizens' committee, the Rathmines and Pembroke Main Drainage Act of 1877 offered for their acceptance.

It is to be regretted that the suggestions of the committee for solving the main drainage difficulty, by means of a Royal Commission of Inquiry and otherwise, have fallen through; but the committee is still of opinion that a full and searching investigation by a Royal Commission should take place before any further attempt is made to saddle Dublin with a gigantic and costly scheme of main drainage. In view of such an event the committee will not formally dissolve, in order that in case of need the nucleus of an organisation may exist for the defence of the interests of the ratepayers.

We have so often dilated in the past on the belongings of the Dublin Main Drainage Scheme in its entirety, we do not now feel disposed to enter upon the subject again. Messrs. McEvoy and Inglis have performed useful work. Indeed the former deserves more than empty formal thanks for his continuous services in the interests of the ratepayers of Dublin.

#### THE BURSTING OF A WATER MAIN.

ON Wednesday last one of the lengths of the subsidiary water main, laid under D'Olier-street, burst, greatly flooding the street. The metal pipe or main is about 3 ft. in diameter, and supposed to be 1 in. in thickness, but in reality it is rather under than over  $\frac{1}{2}$  in. The broken length, however, exhibits a pretty uniform thickness in its circuit, and we conclude from an examination that it had a fracture of old standing, if not from the beginning. It was placed at too low a depth to be affected by the vibration of the street traffic, whether of ordinary vehicles or trams. The locality of D'Olier-street, College-street, and Westmoreland-street, is all made-up ground. Indeed there are old maps of the city existing, showing the foreshores of the Liffey extending to high Trinity College. On the ground plan of Chichester House (now the site of the Irish Parliament House and Bank of Ireland), there is a spot marked "Old Shore," plainly proving that the waters of the Liffey and the tide both flowed near to College-green. No doubt from the soft nature of the made-up ground in the D'Olier-street quarter, a sinkage has taken place here and there. With a great water pressure, a defective casting, and a sinking at a particular point, a strain is likely to occur resulting in the accident we have chronicled.

A NEW ILLUSTRATED MAGAZINE OF ART, in which the Fine Arts in all their branches will be fully represented by pen and pencil, will be shortly commenced by Messrs. Cassell, Petter and Galpin. "The Magazine of Art" will contain notices of all contemporary art matters, notes on current exhibitions of pictures and other works of art, together with essays on various artistic subjects by eminent writers, and will be illustrated throughout by high-class engravings.

## CITY BLOTS.

NO. I.

A WALK down Sackville-street, whether made by a visitor to, or a resident in, Dublin, will reveal a number of blots, which are not creditable to the city, or to the Corporation which is supposed to govern it. One or two of these blots is all we can take a note of at present. Reader, whoever you be, stand for three minutes at the corner of Gregg's-lane, and look at that picture of dirt and dilapidation on your right hand. It is the site and *débris* of a house that fell, with other accumulated and still accumulating dirt. A peep into the interior corner of the heap or heaps is quite sufficient for all sanitary or unsanitary purposes. Recollect you are in one of the best and most boasted of streets of the capital; but, in recollecting this, do not forget the object or the cause,—do not forget that we have a corporate body, who, we suppose, like mendicants, are proud of their ulcerated sores—so proud, indeed, of the valuable acquisition that they will not swathe them even with rags. A hoarding of timber at the cost of a few shillings would cover from public sight the corner dunghill looking in upon Sackville-street; but our supreme Corporation, who are preparing to receive shortly the British Association, have not the common prudence to bestir themselves to hide filthy spots out of the sight of illustrious strangers. We would, however, advise the sanitary section of the municipal body, before they put up a hoarding around the site of the fallen house that they should remove the accumulated *débris* and dirt within.

We are also certain our "illustrious visitors," when they come, will be greatly charmed by the sight of the very plain plane trees that are at present so sapless and stricken in Sackville-street. Passing along leisurely last week, we were tempted to give one of them a poke with our walking stick. A jarvey, who was waiting for his fare alongside, humorously remarked, when he observed our thrust, "Begorra, your honour, if they're not growing up, they're growing down anyhow." The jarvey was quite right, the trees in Sackville-street are rotting down, stems and roots, and they will soon be fit for firewood. It is really discreditable the way in which this experiment of tree-planting has been managed from the very first. It is only a few days ago since we looked upon the healthy trees on the Thames Embankment in London, bursting out into foliage, full of sap, and green. What a contrast is presented in Sackville-street—bare stems almost, leafless branches, decay and rottenness! What need we draw a moral which is patent to every intelligent citizen. We have pointed out often before what should be done and could be done respecting these trees; but, remembering the composition of our representatives and the objects that personally interest them, we are not surprised at the patent neglect which we witness on all sides. If the best street in Dublin can supply a number of blots, what would not the great majority of our streets exhibit to the visitor intent on penetrating our back streets and alleys, north and south. Ruts, unpaved roadways, unflagged footpaths, choked drains and sewers, unscavenged streets, and a foul-smelling, poisonous river. Multiply these blots by any number you like up to a hundred, and the product will scarcely be an exaggeration of the unsanitary condition of Dublin.

NO. II.

Having noticed a couple of blots in the leading thoroughfares on the north of the Liffey, we now turn to one of the principal thoroughfares upon the south side. For the past three years in Grafton-street there are two houses, one of which has given rise to much corporate and public criticism. One house is altogether down, but the floors of the other are shored up. Not long since, and for several months before, the props supporting the one was a constant eyesore and public obstruction; but, taken together, the appearance of what remains of both houses, and the wretched spectacle they present, is a public disgrace to the city and the Corporation. Such a picture of ruin, dirt, and dilapidation would not be tolerated a day in the city of London. Day by day, month by month, and, indeed we might truthfully write, year by year the picture unchanged, except for the worse, has stood in all its naked deformity in one of our finest streets. We often wondered that the wealthy merchants, shopkeepers, and proprietors of large warehouses in Grafton-street, whose emporiums are frequented daily by rank and fashion, submitted so long to the glaring and intolerable nuisance. One, if not more, of the principals of these large warehouses are members of the Corporation; but even the civic body *in globo*, apart from individual members, prefer to let houses fall in Dublin than ordering them to be taken down when dangerous.

*En passant*, despite the long delays and disputes that have arisen on the head of these houses in Grafton-street, we understand that arrangements are being made for their immediate re-building, and that the public will soon witness the erection of two houses with their shops of an architectural character, which will add to the improvement of this historic and leading thoroughfare of the south city.

## ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the special meeting of the Institute, convened on the first of the month, the proceedings were wholly in relation to the late Sir Gilbert Scott, and for considering what steps should be taken to do honour to his memory. An address was submitted and adopted, signed by the president and bearing the corporate seal of the Institute for transmission to the family of Sir Gilbert Scott, expressive of the sympathy of the Institute. Several of the principal members paid in succession warm tributes to the memory of the great architect throughout the evening.

On Monday, the 8th, the ordinary meeting of the Institute was held, Mr. Charles Barry, President, in the chair. The following gentlemen were balloted for and elected:—As Fellows—Mr. T. Mellard Reade, of Liverpool; and Mr. H. Heathcote Statham, Queen Anne's-gate. As Honorary Associate—Mr. William Tippling, of Bristol Park, Sevenoaks. Amongst the nominations for the Honorary Associateship of the Institute was that of Sir Edmund Beckett, Q.C. Several donations to the library were announced, and amongst the donors were Mr. James Fergusson, F.R.S.

The president read a letter from the Queen approving of the nomination of Mr. Alfred Waterhouse, A.R.A., as this year's Royal Gold Medallist. The president next alluded to the forthcoming conference to be held this year, and the arrangements making to that end. The subject of "Illicit Commission" was remarked upon by Mr. Cates, and afterwards by the president; and a correspondence was read in reference to the proposed bill. A discussion then took place on Mr. Conder's paper on "Japanese Architec-

ture." A paper on "Obelisks," by Professor Donaldson, was read in his absence, through illness, by Mr. W. H. White. The meeting terminated with the announcement that, after the discussion on Professor Donaldson's paper at next meeting, Mr. Thomas Blashill will read a paper on the "Vexed Question of Oak or Chestnut in Old Roofs."

## THE ARCHÆOLOGICAL INSTITUTE.

At a meeting of this society on the 5th inst. (Sir J. Maclean, V.P., in the chair), Mr. C. E. Keyser read the conclusion of his paper "On the Mural and Decorative Paintings in Canterbury Cathedral."—A memoir by Mr. W. T. Watkin, "On Britanno-Roman Inscriptions discovered in 1877," was taken as read. This was the second of Mr. Watkin's annual series.—Canon Venables gave an account and exhibited the MS. Chronicle of the Cistercian Abbey of Louth Park, in Lincolnshire. This was a folio of twelve leaves, incomplete at the beginning. It was noticed that the water-mark of the paper was the same as that of the Hall Book of King's Lynn, of 31st Henry the Sixth (1452). The first page of the MS. begins with the close of the "tertia ætas" of the world's history—the epoch of Samuel and Saul. It goes regularly on to the fourth, fifth, and sixth "ætas," the age of the Crucifixion, and so on, with a general summary of civil and ecclesiastical history up to the verso of fol. 5, when a regular tabular chronicle begins year by year, commencing with 1067. The special purpose of the Chronicle, however, begins in 1139, the date of the foundation of the Abbey. Canon Venables gave a *résumé* of the contents of the Chronicle, ending in 1413, with the death of Henry the Fourth. It was related how the MS. had long been missing, but had lately been rediscovered among the effects of the late Mr. Harrod.—Mr. R. S. Ferguson exhibited a bronze female bust of Roman workmanship, 4 in. high, and hollow. This beautiful object had been recently found in the bed of the River Eden, near Carlisle. It had formerly a lid on the top of the head and loops for suspension remain at the sides. A similar object from Lyons is in the British Museum, and it is considered that these articles served the purpose of receptacles for oil, to be suspended from lamps by chains. Another bronze female head was exhibited from the same locality. Mr. Ferguson also sent a bronze figure of a bat, with the wings extended over its head in the form of an acanthus leaf. Mr. Ferguson also exhibited two plumbago moulds of the time of Henry the Seventh, for the manufacture of base coin of that period. Mr. Ferguson explained, from his own practical experience as a base coiner—with these identical moulds—the exact manner in which they must have been used, and pointed out the great ingenuity that had been shown in their manipulation for dishonest purposes. Three of the coins were forgeries on the York mint, the other was a groat of Richard the Third. These unique moulds for antique counterfeits were discovered in 1865 at Netherwasdale, in Cumberland. Mr. Ferguson also exhibited a box of silver money weights in low standard silver, fifteen in number, one of them being for the purpose of weighing against the Turkish ducat. Mr. J. A. Sparvel-Bayly exhibited a bronze celt, Roman pottery, and other objects, lately found near Billericay, and read a careful account of Roman and other discoveries in the district. Mr. Harts-horne exhibited a painted glass roundel, successively the property of Horace Walpole, Mr. Cole, and Mr. Kerrieh, said to be the work of Lucas of Leyden, and another roundel representing the siege of a town. Mr. Bernard Smith sent two "porte-Couteaux" for the bill-hook, carried by wild tribes in the Deccan, and a Maori title-deed, carved in a piece of green jade, having a remarkable *chatoyant* lustre. Canon Venables exhibited photographs of the house of Aaron the Jew, at Lincoln, now being rebuilt, and gave a description of the building.

## SEWAGE AND THE PUBLIC HEALTH.

THE important question, "What shall we do with our sewage?" has called forth a series of articles in the columns of the *Providence (Rhode Island) Daily Journal*, the numbers of which are to hand. Our American cousin has apparently made himself well up in all the systems tried in these kingdoms and on the Continent. We shall make room for some passages in which his views as to sewage disposal are put forward:—

The first proposition is that, for health's sake, all solid and liquid wastes which are liable to decomposition should be promptly got rid of at any necessary cost before they can poison the vital elements with the germs of disease. And not only should they be hurried off our own premises, but out of and away from the city so far as to create the least possible nuisance; for no man has a right to poison his neighbour. The problem how finally to dispose of it after its removal from among us, which has long vexed the wisest heads, may be considered afterwards. The wastes incident to human life, which should be thus summarily dealt with, are, first and chiefly, excreta, but also household slops and some kinds of manufactory drainage. The methods now in use, or undergoing the test of their merits, for the immediate disposal of a portion at least of the most offensive and dangerous parts of sewage, excreta, are various, and are chiefly and briefly as follows:—

1st—The primitive "midden," or privy, still far too commonly and neglectfully used, both in city and country.

2nd—The cesspool, receiving, besides the sink-wastes, the discharges from water-closets operated by tank or public reservoir supply. This close gas generator is a far more dangerous neighbour to the house with which it is connected than a well-ordered, self-cleansing sewer would be.

3rd—The pail system, said to have been "first used in Rochdale, England," about nine years ago.

4th—The dry-earth closet. This system is based on the deodorising quality of earth, and is better known in this country than the forms of closet previously mentioned. Its operation consists in applying automatically (or otherwise) a small quantity of fine, dried earth after each use of the closet.

In crowded centres of population this system (and all the other pail and closet systems mentioned, for that matter) must utterly fail in a sanitary or practical point of view if left to individual care.

5th—The Lierneur or pneumatic system is in operation in Amsterdam, Leyden, and Dordrecht, and in several barracks, hospitals, and factories in other towns in Holland. This system provides for the frequent delivery of the contents of closet-pans, by suction, through connecting pipes, into iron tanks sunk in the street, and then into portable tanks for removal. Being operated by pneumatic process, the apparatus must be perfectly air-tight; a crack or an open joint in any part of it prevents the necessary vacuum, and trouble at once ensues. A system requiring such nicety of construction and care in maintenance must be a very uncertain and expensive one.

It will be observed that none of the "improved" methods dispose of the great liquid bulk of sewage. They are not designed either for kitchen or chamber slops. The solid wastes of the human system, for which they make as nearly exclusive provision as possible, form but an insignificant part, in bulk, of all our sewage and drainage. There is, besides, the continual flow of liquid wastes from our houses and manufactories, which is practically equivalent to the water supply—in our case, at present, about 2,750,000 gallons per day, and rapidly increasing. As we value health, this must not be turned upon the ground to rise again in the form of miasma, nor be stored in cesspools on our premises to

breed corruption; it should be promptly removed. The rainfall, too, and the filth it washes from the streets and quite too many neglected premises, should in some way be disposed of, and the subsoil be drained of excessive moisture.

The "dry systems," then, signally fail to accomplish the general purpose, and their employment is simply folly if any system can be devised which, while fulfilling all the other requirements, will, at the same time and without additional cost, serve the special purpose for which they are designed. Such a system, and far superior to any of them in prompt, continuous, thorough, economical, self-operation and the consequent promotion of health and longevity is—

6th—Water carriage, by properly constructed public sewers, receiving contributions all along the line, through connections with premises and street openings, and conveying them without stoppage, by the unfailing law of gravitation and the carrying force of water, to a safe place of deposit. Constructed with careful regard to grades, sizes, forms, materials and workmanship, such sewers will be what our old rough, flat-bottomed, stone drains, built for the disposal of rain-water only, never would have been,—efficient and self-cleansing carriers of sewage. "These constructions," says Prof. Nichols, "play a most important part in the preservation of public health. Hidden, and consequently but little thought of, they are, in crowded cities, our constant and faithful servants, removing from among our dwellings, yards and streets, not only the superfluous rain, but every fluid and semi-fluid form of refuse matter, which, if allowed to accumulate, would pollute the air and cause pestilence, as it did in European cities centuries ago."

The "separate" or "double" system of sewers has had, and may still have, its advocates, but has very seldom been put in practice,—never in this country. It consists of a double line of sewers, one of large size for surface and subsoil water exclusively, and the other for sewage proper. If the sewage was to be utilised for commercial profit, the point thus gained of keeping it undiluted by the great bulk of surface and subsoil drainage, would be an important one, but this advantage would be overborne by the largely increased cost of the system; for although the sewage pipes should, for greater efficiency, be made smaller, and therefore less expensive, than they can be when intended for all purposes, yet so proportionately small is the quantity of sewage proper to the greatest possible bulk of drainage (storm water), that the larger conduit would, as a rule, be built of the same capacity as though it had also to carry the sewage. "Our best engineers," says Prof. Nichols, "do not advise this separation, except to provide 'storm-water overflows' as a measure of economy. With such outlets a system of sewers may be made of less capacity and at less cost."

Reference has been made to the difficult, and, as yet, unsolved problem, of how best to dispose of sewage when its discharge has so increased in quantity at the outfall as to endanger health.

The great value of its manurial elements has made the question of its utilisation a prominent one. It is estimated that the London sewage carries not less than five million dollars worth into the Thames annually. To come nearer home: if the city of Providence were completely sewered, and all our wastes were thus disposed of, more than a quarter of a million dollars worth of fertilising material would be turned into Narragansett Bay every year. This takes into account, besides excreta, the manure washed into the sewers from the streets and yards, potash in the form of soap-suds, &c. That so much valuable matter should be running utterly to waste, seems, at first thought, the extreme of folly; yet, valuable as are these elements, they are so diluted with worthless liquid that the whole mixture, as it passes the outfalls, is worth only about

one cent per ton of dry-weather flow alone, and is not, by any process yet known, worth the cost of its reduction.

To the economist, the question of the utilisation of the manurial elements of sewage has been an attractive one, and organised capital, under the stimulus of prospective profits, has been largely expended in testing most of the processes proposed; but none of them have as yet been made to yield commercial profit.

The city of Worcester has in view the establishment of a sewage farm; not in the anticipation of profit, but because their present mode of disposal, (by discharge into the Blackstone river), is a continually increasing nuisance to other communities. Our State is preparing to try the experiment of the utilisation of the sewage of its institutions upon its farm at Cranston, with better promise of success, because it is on a smaller scale, its line of delivery is short and inexpensive, and the necessary labour is almost nominal.

The original design of the sewerage works of this city contemplated the possibility of a resort to some mode of final treatment for sanitary reasons; but we may not reach that extremity for many years, and when we do, it is probable that some process will have been discovered by which an actual net profit may be derived from the treatment and sale of sewage.

The most economical and effectual mode known of dealing with sewage by cities on the sea-board or tidal rivers, is direct discharge into the sea or river, unless compelled for sanitary reasons to a different course. This is the common practice the world over; in this country it is the universal one.

Another important advantage secured by sewers, in the interest of health, is the drainage of superfluous moisture, not only from the surface of the ground, but from the soil itself. Water in the soil just as naturally seeks a lower level as that upon the surface, and is technically known as "lowering the water-table." It should be brought below the foundations of buildings, ensuring drier cellars.

Soil drainage may be effected by soakage through the brick walls of the sewer, and the manholes. Vitrified-pipe sewers are more nearly impervious, though the joints are sometimes open to the passage of water, and there are always brick manholes 100 ft. apart on a line of pipe sewer. But while this perviousness of brickwork permits the passage of earth-moisture through it into the sewers, it "does not allow soluble organic matter to escape from the sewers into the soil to any serious extent,"—not at all in the manholes above the sewage-flow, of course. Soil moisture, whether naturally existing or produced by unremoved waste or rain-fall upon the surface, gives rise to malaria, and is now one of the recognised causes of consumption and diphtheria.

Investigations of the most thorough character, by Dr. H. I. Bowditch, of Massachusetts, and Dr. Buchanan, medical officer of the Privy Council of England, have conclusively proved that "residence on damp soils tends to the production and promotion of consumption, both in New and Old England."

In 1875, damp or wet cellars, in ninety-seven towns, were reported to the Massachusetts Board of Health, as causing a large amount of preventable disease; bronchitis and other affections of the respiratory organs, rheumatism, phthisis, pneumonia, and a lessened power of resistance to all diseases when contracted. By the construction of sewers, and the lowering of the table of excessive soil-moisture below the foundations of buildings, the evil is, to a good extent, remedied.

The Massachusetts Board of Health state in their Sixth Report that "the mortality from consumption alone has shown a constant reduction for several years; a result which is due, in a great measure, to improved drainage."

Professor Corfield says that in certain

towns in England, the death-rate from consumption has been reduced one-half by the lowering of the sub-soil water, consequent upon sewer construction. Of course there are localities where the soil is porous, and excessive dampness does not prevail to aggravate lung diseases, as in many parts of Providence. There the drainage of the soil would not probably show so marked an effect upon the consumption death-rate as in damper localities.

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

THE dramatic romance of "Cymon," very popular in London at the period of which we are writing, was selected by Mossop for reproduction in Dublin; and for upwards of two years the Smock-alley manager was systematically preparing for it and keeping its announcement before the town. The scenes were painted, the dresses made, and costly and brilliant decorations promised. Nearing the time for its presentation the public prints were filled with notices of the forthcoming piece, the beauty of the music, and the efficient manner in which all would be put on the stage. The new play was to be acted on Friday, March 8th, 1771. Dawson, the rival manager, was not idle in the meantime; and on the Saturday night preceding the Friday as the performances at Capel-street were ending, Dawson came forward on the stage and announced that "Cymon" would be produced at that theatre on the Monday night following, with all the original music, entirely new scenery, machinery, dresses, decorations, grand procession of knights of the different orders of chivalry, &c. The audience, of course, were astonished at the announcement, but what was merely a surprise to them came like a thunder-stroke to the startled ears of Mossop. Dawson had almost secretly and cautiously, as well as expeditiously, prepared for the circumvention of his rival. Sets of scenes were painted and dresses were provided, made by Lupino, tailor to the Opera House in London. The music was practised and the chief parts studied, and, to throw the players and others off their guard, these preparations were made under the pretence that, after their rival had played it for a few nights in Dublin, he would bring it out as a farce. His well-concerted design succeeded admirably; and certainly, as a bold and well carried out theatrical stratagem, it evidenced Dawson's great forethought and business qualities.

On March 4th, "Cymon" was produced at Capel-street, "with a correctness and brilliancy which were highly creditable. The scenery was beautiful and well adapted; the dresses picturesque and according to the original models; and the procession remarkably splendid and *nouvelle*. All the performers, without exception, walked in different characters, and upwards of forty supernumeraries filled up the train in proper habits." The reception was, of course, most gratifying, and Dawson scored a complete victory over his adversary. The piece was performed four nights at Capel-street before Mossop was able to bring it out at Smock-alley, and, though presented with great care at the latter, first impressions had been formed, and it never answered the expence of its production by Mossop. It was often played during the season, but was finally cut down to a farce.

The following was the caste of the piece at both houses, as furnished by Hitchcock:—At Capel-street—Cymon, Mahon; Merlin, Glenville; Dorus, Herbert; Linco, O'Keeffe; Urganda, Mrs. Barre; Fatima, Miss Young; Dorcas, Mrs. Hoskins; Sylvia, Miss Ashmore. At Smock-alley—Cymon, Ryder; Merlin, Heaphy; Dorus, Remington; Cupid, Miss Rogers, five years old; Linco, Wilder; Urganda, Miss Sheveraff; Fatima, Miss Mansell; Dorcas, Miss Heaphy; Sylvia, Mrs. Browne.

During the remainder of the season, at

Capel-street, the "Romp," in which Miss Ashmore gained applause, was played, together with Macklin's "Love à la Mode," the "True-Born Scotchman," and a number of other pieces. Cumberland's "West Indian" ran eighteen nights; "Cymon," nine; the "Romp," six or seven; and the "True-Born Scotchman" the same number. The great success that attended all these pieces completely cut the ground from under poor Mossop. One already quoted thus observes of him:—"Disappointed in his hopes, harassed by innumerable vexations, and oppressed with debt he had not the least prospect of being able to discharge, his spirits sunk under the pressure of such accumulated misfortunes, and a severe illness prevented his appearing on the stage."

Shipwrecked and stranded at last, Mossop was obliged to solicit a benefit for himself, in which he was unable to appear. In the words of the advertisements he "humbly hoped his indisposition would not prevent the attendance of his friends." Mossop's benefit took place on the 17th of April, 1771. "Rule a Wife" was the comedy acted. The Copper Captain, Ryder; Leon, Heaphy; Margaretta, Miss Mansell; and Estifania, Mrs. Browne (formerly Miss Stack). "Cymon" was reduced to an afterpiece. There was a very good house, but the receipts, after all, only afforded a temporary relief. Poor Mossop's circumstances were so desperate at the time that it would need some extraordinary measures to afford him practical aid. To the credit of the profession and to Dawson they were above oppressing a fallen rival; and, as an evidence of their sympathy, there was no performance in his theatre on the night of Mossop's benefit. The success of Dawson and the favour that his company met with on the part of the public allayed all fears, and the opposition could afford to be generous.

Crow-street, relinquished by Mossop, was taken possession of by Dawson in March, where his company continued to receive the patronage of the play-going citizens. After a few benefits at Smock-alley on the part of the principal performers, that house closed early in May.

Theatrical affairs looked promising for the future of Dawson at Crow-street, and the manager spared no time or trouble to hunt up novelties and talents over the three kingdoms. Isaac Sparks, an excellent comedian, after five years' absence from Ireland, was brought over from the sister kingdom, and made his appearance in John Moody. Mr. and Mrs. Jackson, from the Edinburgh Theatre Royal, made their appearance in May. Mrs. Jackson also had been absent from Dublin for the previous five years. She was formerly Miss Brown, and was the daughter of Sowdon, whom we already noticed as joint manager with Victor for a short time of the Dublin theatre. Mrs. Jackson made her appearance of Polly—her first personation of that character—for which it was said her figure and voice were well suited. Mr. and Mrs. Jackson were favourites with the citizens, and Isaac Sparks always pleased. A more acceptable re-appearance and presentation, perhaps, for the Dublin public was the bringing forward once more of Spranger Barry, though shorn of his royal honours. Again reduced to the ranks where he first won his spurs, he still possessed powers to move and charm.

Mrs. Dancer (now Mrs. Barry) accompanied her husband; and the former on the 13th of June played "Rosalind" with effect. Lewis acted Orlando and Sowdon; Jacques, the whilom joint stage manager being one of the birds of passage who came to Dublin with those just named. A few nights after Barry's return he made his appearance in "Jaffier," and met with a most warm reception.

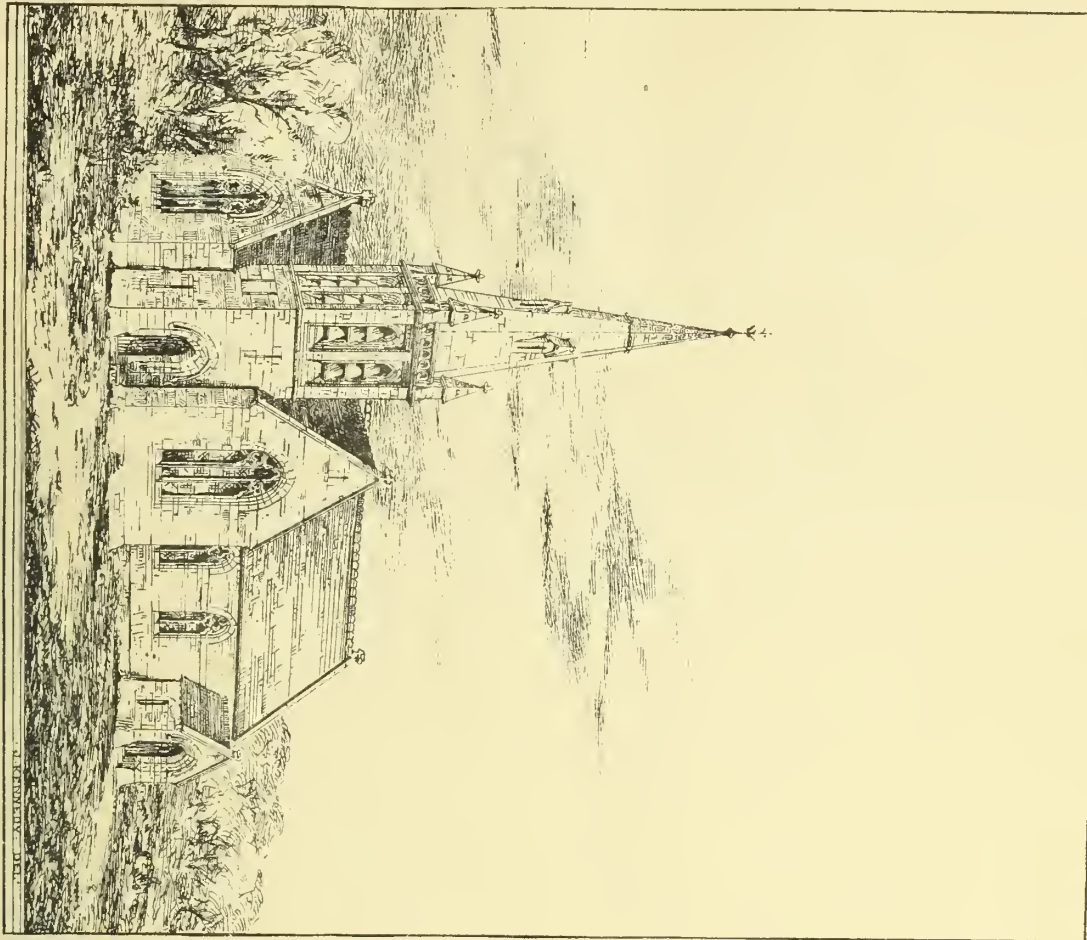
For the remainder of the season tragedy chiefly occupied the attention of managers and the public. Othello and Desdemona, Lear and Cordelia, Lord and Lady Townley, Rhadamistus and Zenobia, Alexander and Statura, Lord and Lady Salisbury,

Varanes and Athenais, Mark Antony and Cleopatra, Romeo and Juliet, were the round of characters which were acted in succession by Mr. and Mrs. Barry. The season closed on the 3rd of August. Miss Young started for London in June, leaving behind a good reputation, which every succeeding visit increased. Isaac Sparks, a few nights previous to the close of the season, introduced his son Richard Sparks on the Dublin boards. His youth and figure are said to have pleased much at the time, "and a laudable partiality for the father made the town entertain hopes he would prove a valuable acquisition to the drama."

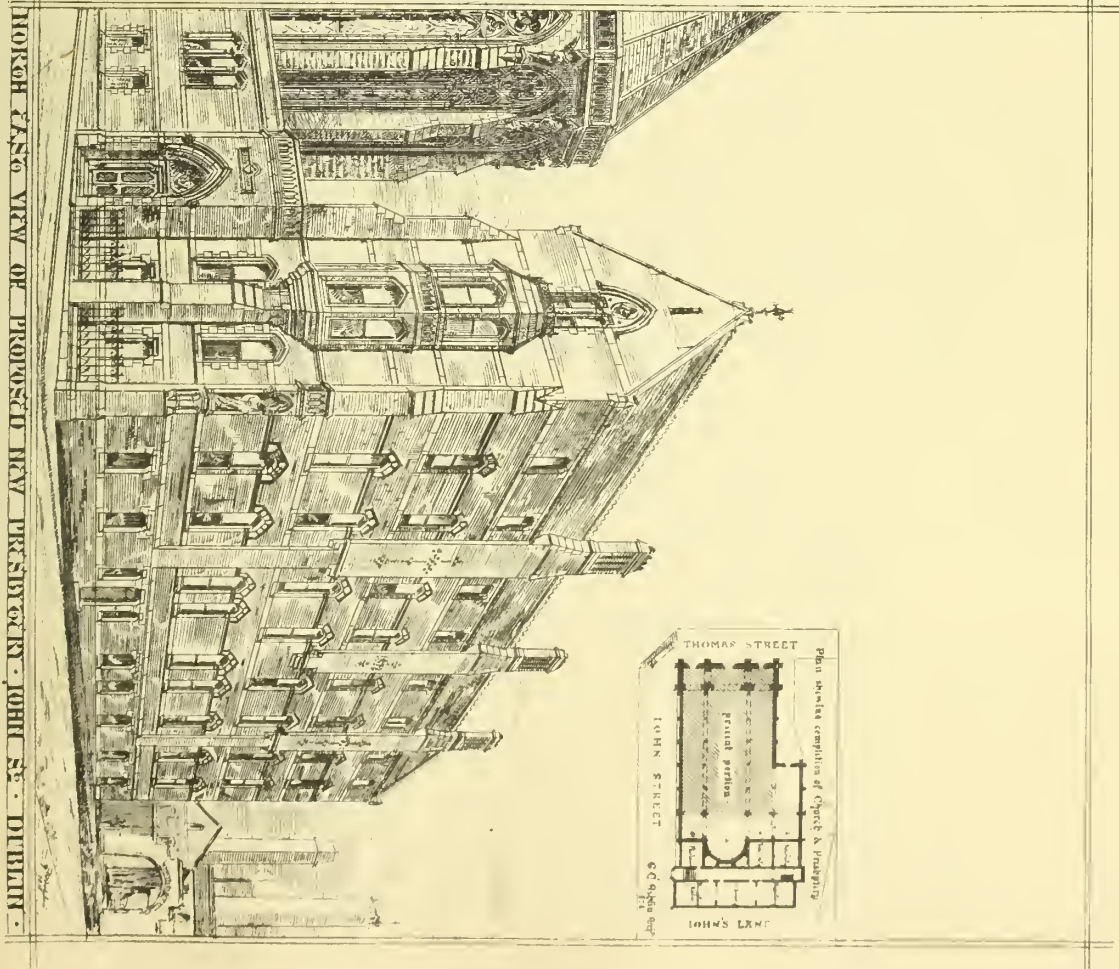
There were two popular actors of the name of Sparks, and it is possible that one is often confounded with the other. Luke Sparks, whom we have mentioned in the earlier portion of our Notes, died in 1767, and he was said to be "distinguished by his amiability and general usefulness." Luke Sparks was equally good in tragedy and comedy. Isaac Sparks had a commanding form and a great flow of humour, and was long a favourite comedian with the Dublin public. Richard, the son of the latter, did not achieve much reputation on the stage; but on account of his father his early efforts were encouraged and his defects overlooked.

After the close of the summer season at Crow-street and its re-opening in November, a small party took possession of Ranelagh Gardens, where English burlettas were presented twice or thrice a week. The company here consisted principally of Miss Ashmore, Miss Hawtry, Ryder, Glenville and Atkins. One of their best exhibitions at the period was the "Ephesian Matron." It will not be amiss here to say a few words anent the Ranelagh Gardens, a once famous place of public resort towards the latter end of the last century. Ranelagh Gardens was the Dublin Vauxhall, and besides being a promenade with walks and flower beds, there were rooms for refreshment, rest, and lounge. Like Vauxhall in London there were fireworks provided outside. The proprietor of these gardens for some time was William Castell Hollister, a harpsichord maker, and also we believe an organ builder, of 40 Cuffe-street. Hollister was a foreigner or of foreign extraction, but his speculations for catering for the amusement of the Dublin citizens at Ranelagh turned out very unfortunate for himself. Often and often when he had gone to a considerable expence in preparing fireworks, and other attractive sights for a particular night, the weather interposed with downpours of rain, and poor Hollister was obliged to send round bills or circulars of apology postponing his exhibitions. In fact the weather turned out so unlucky that Hollister's bills eventually contained the standard proviso of "weather permitting." Hollister expended large sums of money in improving the grounds at Ranelagh, and whenever fine weather came his entertainments were generally satisfactory. A succession of days of bad weather brought on, of course, serious losses, and sorely tried poor Hollister's temper. Ill luck had attended his previous speculations, and it seemed that whatever he undertook was certain to fail from some occult cause combined with the weather, which would not smile long upon him, do whatever he might. Hollister at last was obliged to give up his speculation of the Gardens; and, in the bitterness of his failure, it is said he was heard to exclaim, if he "turned hatter, men would, he supposed, be born without heads." The ground of Ranelagh Gardens was afterwards purchased for a convent of nuns many years ago; and we believe an establishment of that kind still exists where the Irish Vauxhall of the eighteenth century attracted thousands of the Dublin citizens on Sundays, holidays, and other days, "weather permitting." It may be as well to remark there was another edition of Vauxhall on the grounds of Clonturk House, Drumcondra, opened by Duval, a speculating Frenchman, about 1819. Old Clonturk House has quite recently been taken down, and a new and

\* See ante.



St. James's Church, Monaghan, Monaghan.



PROPOSED NEW PRESBYTERIAN CHURCH, JOHN ST., DUBLIN.



substantially built mansion of an ornate character erected in its stead by our well-known public works contractor, Mr. J. W. Doherty. The Drumcondra Vauxhall, of Duval, proved very attractive for a short while. It had its artificial spas, produced by casting old iron nails, &c., into the waters to give them a mineral taste. On Clontarf ground were also exhibited swings, merry-go-rounds, and other appliances—fireworks and field sports. While the novelty lasted and success attended Duval's entertainment, Drumcondra was a gayer place on Sundays and holidays than even Dollymount. A little Donnybrook of cars might be seen at the "Cat-and-Cage" Tavern at the time; and on the way from the "Big Tree," along Drumcondra-road, lines of janting-cars and hearses, and mourning coaches interspersed, the living and the dead, the laughing and the mourning, proceeding to Drumcondra together. It needs only to be explained that for long years before the opening of Glasnevin Cemetery, Drumcondra graveyard was the principal burying-ground on the north side of the city.

The mention of Ranelagh Gardens in connection with theatrical exhibition in Dublin suggested a few words anent the entertainments on the grounds of Clontarf at Drumcondra; and, though we may have anticipated events a little, we know our slight digression will not displease those who may take an interest in our Notes in connection with the Irish stage.

## LECTURES ON ARCHITECTURE.\*

(Continued from page 105.)

We have seen how the square turrets were gradually modified, and gave place to circular forms, and how a combination of curves became ultimately merged in one great circular plan, as at Coucy. This form, however, was only applicable to the donjon, and the walls of *enceinte* were still irregular in form. They therefore, necessarily, continued to be defended in the old way, by towers, which were built, as before, of the circular plan.

At Château Gaillard, on the Seine, the inner line of defence is composed of a series of curves, which almost join one another, and form a wall of very great strength. This arrangement is, however, peculiar, and as Château Gaillard was the favourite work of our King Richard I., and as he is known to have devoted great personal attention to the design, it has been supposed that the special features found in this great work, and which are not to be traced elsewhere, were due to the personal views and orders of the "lion-hearted" monarch, and possibly derived from his Eastern experience.

In other cases, the circular turret was still employed, with a greater or less length of curtain or straight wall between the turrets. It became evident, however, as the power of attack increased, that such curtains needed more protection, and the obvious method of affording it was to multiply the towers. As this was very costly, and not always easy to achieve for local reasons, an alternative suggested itself by advancing the towers, and thus obtaining a greater lateral command of the curtains. To project the towers, however, unduly, would weaken the whole work, and to increase their diameter led to expence and inconvenience. A modification of the circular form was consequently arrived at by the addition of a projection on the outer face, which thus finished with an angle. The circular form was still unchanged within, but the outer portion of the turret assumed, on plan, the shape of an acutely-pointed arch, which we may term a horn or beak. It will readily be perceived that the adoption of this form secured important advantages. Not only did it give to the defenders a better range for the defence of the curtains, but it strengthened the walls of the tower at the point where attack was most to be expected, and, moreover, tended to keep assailants

further from the walls, and consequently in positions more exposed to converging fire.

To succeed in the attack in those days was impossible without coming to close quarters, and every difficulty thrown in the way of the approach was an important gain to the defence. The projecting angle, or horn, arose therefore naturally from scientific considerations and the proved exigencies of the case, and the principle was capable of further development. We thus find the horn assuming gradually a more elongated shape, and the towers projecting more and more from the walls, till they become oblong on plan, with curved and pointed ends, the latter being sometimes built of an angular shape, with straight sides.

It is evident that in the construction of important places, the science of defence was thoroughly studied and brought to great perfection, and the reason is not far to seek. Such works were the natural outcome of the feudal system, in which each great lord was a petty monarch, with his court and policy, his army and dependents, owing him obedience and fealty, and not looking beyond him. Each feudal chieftain had, therefore, the perils, as well as the pleasures, of independence. He had to look to his own safety, so that no one should make him afraid. He needed to be able to assemble his vassals, and defend them in case of need. His ambition might even lead him to refuse that service to his feudal superior which he exacted rigidly from his own people. He was, in fact, the strong man armed, and armed against the world, against friends who might become foes; against the foreigner as well as the neighbour; sometimes against his superiors, and often against his own people. It was not the day of great armies, but rather of small bands of hardy men, trained to arms from their youth. With them the lord and his family lived in the great castle, and when necessity arose for further aid, it was met by hiring bands of roving adventurers, who made war their trade, and sold their services to the highest bidder.

It is necessary to bear those circumstances in mind in order to understand the full importance that was attached to perfecting the defensive work of such fortresses as that of Coucy, and also to appreciate the architectural skill which was brought to bear on its internal details. In the chapels, refectories, halls, and other out-buildings, the beauty of architecture is often very great, though generally of a later date than the castle itself. It is, however, of the latter that we are now treating, as the former buildings, while following the variations of styles, in the same manner as other architecture of the period, have not the peculiarities of construction which mark out the castles proper as objects for especial notice in connexion with the subject before us. The defences of such buildings became stronger and stronger. Towers were multiplied, drawbridges added, and machicolations permanently constructed of stone, when suddenly there appeared upon the scene a power which was destined to revolutionise the art of war. I allude, of course, to the invention of gunpowder, and the use of artillery. The feudal system was essentially one of individual prowess, and yielded slowly and reluctantly to a rival, which sought for strength in combination, and mowed down knights and serving men in a common destruction.

It was evident to the thoughtful inquirer that the days of lofty castles, with their commanding walls and towers, were numbered, and that they could not brave a power which, by breaching the weakest part, turned their strength into foebleness. But men are slow to change, and the old forms long continued, till they merged at last into the picturesque battlements and turrets of purely civil architecture. France was especially the country for fortresses, and we find, consequently, that the influence of military traditions on civil work, in that country, is more marked than is the case in England.

The French *châteaux* are illustrations of

the transition from the Mediæval fortification to the palatial residence. We have there the comfort of adequate internal arrangements, while outside, there is still the gateway with its flanking turrets, as at Chaumont; the bridge, as at Chenonceaux; the moats, parapets, and towers, of Azay-le-Rideau, and other examples.

The circular turrets, with their extinguisher-like roofs have indeed come to be recognised as a distinguishing feature of French domestic architecture. In England the case was different. Our castles were, in the first place, less numerous, and less important. The state of public affairs was less unsettled, and our insular position was then, as now, our chief protection. The fortresses were, more frequently, strongholds of the king, as trustee for the nation, and in cases where they were erected by private persons, they owed their existence, for the most part, to special circumstances, such as the temporarily unsettled state of frontier counties,—as, for example, those which formed the border land between England and Scotland, or England and Wales. The round towers of Ireland, and the sea-coast fortifications, had also, in the same way, only a local importance. We do not, therefore, trace in English domestic architecture, subsequently to the Norman and castle building period, anything like the same military influence that we see in France. The battlements of our Mediæval houses soon became merely ornamental details, and the turreted gateways a sign only of architectural magnificence. The moats became gardens, and chimneys took the place of turrets. The castle of the Norman lord had given place to the hall or manor-house of the English nobleman and squire.

In dealing with the architectural forms of castles, we have naturally concentrated our attention on the defence. We have seen, however, how such forms became varied, in consequence of experience, and how increased power of attack was met by a more than corresponding addition to defensive strength. It therefore becomes desirable to notice, briefly, how the attack was carried on, and to what structural forms the necessities of defence gave rise.

Space would fail us to pursue the subject beyond the invention of gunpowder. The changes caused by this great revolution, indeed, soon took the fortress out of the hands of the architect altogether, and we have, therefore, no further concern with it here. We shall consequently have to refer only to the old and primitive modes of warfare; which, handed down from the times of the Romans, were perfected more or less by our Mediæval forefathers, and were used against such structures as we have left to us at Coucy and elsewhere.

First of all we come to the battering-ram, an engine familiar to all readers of history, and needing no description. It was necessary to place the ram near to the walls, and hence the necessity for towers of defence. Such defensive works were attacked by other towers, constructed under shelter by the besiegers, and then moved by them to situations opposite to the chosen points of attack. These towers of offence required to be higher than the battlements of the fortress, so that the attacking force might descend upon the latter, by means of bridges and movable platforms in such a manner as to overpower the defenders by weight and numbers. In order to provide a suitable foundation for the erection of the battering-ram, or the tower, it was necessary to approach the walls. This was done by trenchers, protected and covered by timber. To resist fire, raw hides were used over the timber, and under this protection, the besiegers advanced, and could mine or injure the walls. In cases where the above-named method of attack was not applicable, as, for example, where a moat existed, an instrument known as the "cat" was employed. This was an oblong covered shed, constructed of timber, and protected against fire by hides, as before described. The cat was built on a platform, which was pushed forward on rollers, and from an

\* By Professor E. M. Barry. Second Lecture. Delivered at the Royal Academy, London.

opening in front, fascines and other matters were thrown into the ditches and moat, as the advance took place. Arrived at last at the foot of the wall, the men inside the cat could work, undisturbed, at their mining and offensive operations. In the meantime, their comrades were not idle, but shot down the defenders, when possible, by means of bows and crossbows, while for more serious operations the catapult of the Romans was still employed. The bow-men were protected by sloping shields, and fired through loop-holes left for the purpose. The wooden towers were constructed and moved forward in the same way as the cat, with long timbers, ropes, and pulleys. They were, of necessity, very strongly constructed, and could contain a large number of men. As the tower gradually advanced, the moat was filled, by materials thrown from the tower, and thus a way was prepared to the foot of the walls. When the distance was thus reduced, the tower was slightly inclined, and thus rushed forward, or fell of its own weight against the top of the wall, and the upper part of the face of the tower being suddenly lowered, as a draw-bridge, the assailants rushed forward, to be followed by streams of reinforcements, advancing through the tower as by a ladder. This was the turning point of the siege, and the defenders, if overpowered, must either surrender, or retreat, as was generally the case, from turret to turret, till they reached the donjon, or keep, which, as we have already seen, was often complete in itself, requiring a regular siege, and well-nigh impregnable. Before yielding, therefore, the besieged had many resources. Their walls were too high to admit of being scaled, they were too strong to yield to the labours of the miner, unless these latter were strenuous and long-continued. But the defenders behind the parapets laboured under one difficulty of a serious nature, in that they were unable to command the foot of the walls, without exposing themselves to be shot. Embrasures were made with sloping eills, but no slope could be constructed of sufficient steepness to overcome this disadvantage. Supplementary defences were therefore devised, in the form of wooden structures, super-imposed on the solid walls, and projecting beyond them. These structures have been called hoards. The object of the hoards was to enable the men on the top of the walls to command the whole outer face, and to be able to drop missiles on the heads of the enemies and assailants below. The hoards, in early examples, were supported on strong wooden beams, pushed from the inside through holes left for the purpose in the walls. These beams projected outwards, as corbels, and on these corbels, wooden galleries were built, and in some cases covered with roofs. Traces of such timber hoards may be found in buildings of as early a date as the twelfth century, and they continued to be employed until the fourteenth century, when they were, for the most part, laid aside for the more solid constructions of stone, which we find forming overhanging balconies, cornices, and galleries. These were supported on boldly moulded corbels of stone, 3 ft. or 4 ft. apart, and apertures were left in the floor, between the corbels, for the use of the defence. The effect of these projections was considerable in an architectural sense, and gave an air of finish and completeness to the structure, as may be seen at Pierrefonds and other places. They had an enduring influence in the forms of subsequent styles, and long survived in England in the overhanging cornices and battlements of the gate towers and turrets of Tudor and Elizabethan days.

Between the times of the use of timber beam corbels, and those of masonry, there was a considerable interval, and during this period of transition, a combination of the two systems was adopted. To masons so well skilled as the builders of the Norman castles, the change from wooden to stone corbels would readily suggest itself, although the cost, and the weight of permanent stone galleries, walls, and embrasures might not as yet be willingly faced. Accordingly, we find,

as at Coucy, examples of permanent stone corbels, without any superstructure, but obviously intended to support, in case of need, timber gangways, or galleries. The corbels are built into the solid walls, and upon them the additional defences required could be readily erected in case of need.

It is now time to conclude my description of the methods of design and construction used by the military architects of the Middle Ages, and particularly by the Normans. It was in their own country that their art was carried by them to the highest pitch of development, but we may trace its influence in many remains of English castles. In the Tower of London, we have a specimen of the square or rectangular keep, with flanking turrets, also rectangular on plan. Rochester and Norwich furnish us also with interesting examples, and in the well-known Round Tower of Windsor, we have a modern imitation of the all but circular form, grand in its simplicity, which superseded the squares and partial curves of earlier times.

It will have been noticed how distinctly the style of design adopted for these structures stands out from that of the ecclesiastical buildings. It is, in fact, a Military style, with some affinity for domestic work, and it is interesting to us as showing, among other things, how possible it may be to develop architectural character from scientific requirements. Nothing could be more prosaic and commonplace than the demands of soldiers for the defence of their fortresses. Nevertheless, we find these demands complied with, in the very spirit of common sense, which is, nevertheless, able to snatch a beauty from art. It is, consequently, impossible for us to study the works of this remarkable age without a strong feeling of admiration for the skill of its architects, and without a conviction that if artistic considerations were properly regarded in our own days, perfect utility need not, and should not, be inconsistent with architectural beauty; nor scientific devotion necessarily opposed to æsthetic culture.

#### THE HUELVA PIER OF THE RIO TINTO RAILWAY.\*

THE euphriferous iron pyrites mines of Rio Tinto, in the South of Spain, were very ancient, having been worked by the Romans. Their output last year amounted to 750,000 tons. The mines were situated about 50 miles from the Port of Huelva, which port was about 12 miles from the bar of the River Odiel. There being no accommodation at the port for shipping, the traffic was formerly conveyed between the vessels and the beach by barges and small craft, a mode of shipment manifestly only suited for a small trade. It therefore became necessary to provide a cheaper and more expeditious plan of shipping minerals. The banks by the side of the river were scarcely 2 ft. above high water, and were principally marsh land, the substratum consisting of soft blue clay for more than 80 ft. in depth, and extending into the bed of the river. When the natural formation of the harbour, the depth of water, the rise and fall of the tide, and other points had been fully considered, it was resolved to construct a pier upon screw piles. Advantage was taken of the methods in use for the shipment of minerals at most of the large shipping ports in England, especially those adopted by Mr. Harrison, at the Tyne Docks. The important question was, whether the roadway of the pier should be at a comparatively small height above high water and the wagons be lifted by hydraulic or some other power to an elevation sufficient to admit of the contents being tipped into the hold of the vessel; or whether the pier should be built upon a rising gradient, so that trains of wagons could be pushed up by a locomotive to the height necessary for the shipment of the ore to be effected by gravitation. Having regard to the large amount of material to be

shipped, and to the advisability of being able to do this quickly, it was decided to adopt the latter plan, though it involved a more costly structure. The pier had been so designed that the wagons were run direct to the spouts, and required no handling after leaving the locomotive engine. To allow of the ore being shipped at all states of the tide, the shipping places were 32 ft. 6 in. above ordinary spring tides, and the pier was carried out into such a depth of water that the loading of a light vessel could be begun at the top of the tide, and be continued when the tide was at its lowest. Another advantage of this plan was the possibility of providing a lower deck for the ordinary traffic of the port, especially for that which will be brought to it when the Seville and Huelva Railway was completed. The total length of the pier and of the approach from the station yard was 2,444 ft. The screw pile portion was 1,900 ft. long. This distance was made up of twenty-nine spans of 50 ft. each, and thirty groups of cast-iron screw piles and columns, eight in each group, placed 15 ft. apart from centre to centre. The pier-head, alongside which the ships were moored, was protected by the shipping deck wharf. This wharf was independent of the east-iron piling, and was composed of creosoted red wood Memel fenders, supported by creosoted Memel piles, cross bearers, transoms, and longitudinal walings. The face of the wharf opposite to each spout was close-sheeted with timbers, measuring 12 in. by 6 in., for a distance of 50 ft., the remaining portion being protected by vertical fenders placed at intervals of 3 ft. from centre to centre. The depth at low water spring tides at this wharf was 15 ft. There were three floors at different levels throughout the length of the pier, and upon these were laid seven lines of rails. These floors were carried upon wrought-iron lattice girders 4 ft. deep, and were supported by the screw piles and columns. The cast-iron hollow screw piles were 16 in. in diameter, and the lowest length of the pile shaft was fitted with screw blades 5 ft. in diameter and having a pitch of 6 in. The principal difficulty was the want of solidity of the foundation, which proved to be worse than was at first anticipated. With two series of lines, one above the other, a greater load had to be borne than if the pier had simply to carry the work of the mines. It was found that the screw piles alone would not give sufficient area of base unless considerable expense was incurred in construction. It was therefore decided to provide additional bearing surface by the introduction of timber platforms, fastened to the piles by cast-iron discs, which clamped the respective piles below a collar cast specially on the pile shaft, so as to rest upon the disc. In this way the load on the pier was transmitted through the columns, piles and discs to the platforms, which rested on the bed of the river. The platforms at the shore end were weighted to 300 tons, and those in the deep-water section to 500 tons. When the loaded platforms ceased to sink, a diver was sent down to fix the discs forming the connection between the piles and the platforms, and the load was then removed. There were four sets of shipping spouts, two on each side of the pier-head, constructed to meet the varying levels of the water, and the different heights of vessels. Each set of spouts had four fixed divisions, the shoot being raised or lowered to any one of these divisions by side chains working in sheaves on a cross-bar spindle under the inner end. The shoot was adjusted to an inclination of  $1\frac{1}{2}$  to 1, as a steeper angle caused a too rapid descent of the ore, while the ore did not readily clear itself from the spout if the angle was flatter. The quadrant and pinion with hand gear, fitted to the derrick frame, for moving the spout horizontally over the ship's hold, were most useful in trimming the ship during the operation of loading. The first-floor shipping deck was furnished with one 15-ton hand-power crane, and one 3-ton travelling steam crane. Mooring buoys were arranged round the pier-head, in the fair way of the

\* By Mr. T. Gibson, Assoc. Inst. C.E. Read at Institution of Civil Engineers, London.

river, so that vessels lay moored fore and aft in line with the set of the tide, at a distance of 300 ft. from the shipping deck wharf. Bollards and eye-bolt rings were fastened at intervals of 65 ft. to the wharf, to which the vessels were moored. Fifteen minutes sufficed to despatch a loaded vessel from the wharf, and to place another from the tier in its berth ready to be loaded.

#### LORD CHARLEMONT'S DEMESNE, MARINO.

THIS historical seat has been for some time in the market, and if not privately disposed of, it will tomorrow pass under the auctioneer's hammer. We desire to call our readers' attention to the fact, because the transfer of the estate to a new proprietor or proprietors may, according to circumstances, be fraught with mischief as well as good. Advocates as we are of building improvement, we would not like to see Marino passing into the hands of speculating builders, good or bad. The creation of a public park for the northern part of the city has long been spoken of, and the slob lands at Fairview have been pointed out as an available site. While the Corporation of Dublin has a certain tangible interest in a portion of the Charlemont estate, and if there was sufficient public spirit in Dublin, Marino could easily be secured for a free park for the future of the north city. It would be a thousand pities to see this magnificent estate converted into second-rate roads and streets lined with third-rate houses. Even if the houses were the best that could be built, their substitution for that of a wooded park of such beauty so near the centre of the city of Dublin, would be deep and lasting regret hereafter.

The Lord Charlemont of Irish Volunteer memory loved the place dearly, and enlisted the services of artists and architects to improve the interior of the mansion and the lawn. On the latter he erected that classic bit of architecture designed by Sir William Chambers under his lordship's direction. The late lord, the son of the former, also loved the old seat, but after his lordship's death Marino fell upon evil days. Its late resident and the present bearer of the name of Charlemont never cared much for Marino. He despoiled the demesne of many hundred trees, which were converted into money. He preferred the old family castle of Ulster; and her present ladyship, though she likes Marino, will probably soon look her last upon the old seat. Had there been a family it is possible his lordship would not part with Marino, but in its absence and from other causes, Castle Caulfield in Tyrone, and London and its sights will have more attractions for Lord and Lady Charlemont than historic Marino with all its olden memories.

#### ANENT "CHURCH RESTORATION."

OUR contemporary the *Academy*, in its issue of Saturday last, has the following:—

"A very readable paper on 'Church Restoration' by the Rev. George Crabbe in this month's *Fraser* puts the case of the anti-restorers as strongly and yet as temperately as can be desired. Mr. Crabbe is not a fanatic. If an anxious clergyman with antiquarian tastes were to apply to him to know what to do with a stove placed in the middle of the church and communicating with the open air by means of the east window, apparently Mr. Crabbe would not do what an eminent æsthetic firm are reported to have done, and advise the enquirer to leave 'an interesting feature' alone. At least strong as he is in his main position—that restoration as at present understood is an abomination and both has done and is doing immense harm—there is a wise tolerance about him when he comes to speak of the practical aspects and details of the matter, which will we hope win an entrance for his fundamental belief into the restoring and clerical mind. For the grievances of the anti-restorers are only too real, and reaction has not come one

moment too soon. The work of the head men, the Bodleys and Gilbert Scotts of the movement, has been questionable—the quadrangle of Christchurch at this moment is enough to set many a man thinking—but what are we to say of the work of the second-rate architects and the local architects? What of 'Patney Church, Wilts, a fair specimen of thirteenth-century work,' reopened 'after a restoration which, with the exception of the walls, the font and pulpit, and a memorial east window, has made it a practically new edifice;' or of the old church of St. Paul, Rusland, in High Furness, which, after having been taken down to the foundations, 'with the exception of the tower,' has been replaced by 'a neat and well-proportioned building of the blue slate stone of the district,' while the tower has been raised fifteen feet? Restoration has, indeed, passed like a hurricane over the land, and it is to be feared that our grandchildreu may see cause to regard the activity of their ancestors with mixed feelings. Mr. Crabbe speaks only of restoration in England, but he might have strengthened his case by looking abroad. The English restorer is not alone in his crimes. In Normandy the fever which has spent its first fierceness among ourselves is at its height. The Caen churches have been restored to death, and Bayeux, still allowed to retain outside the rich weather-beaten yellow in which time has dressed its twin western towers, is as white and new inside as M. de Caumont and his friends could make it. Countances might have been finished yesterday, and alas! for the old glass in the transepts, with the new bodies to the old heads, and all the irremediable ruin and confusion of it! The loveliest bit of decorated Romanesque in Normandy, the priory of St. Gabriel, near Creully, a year or two ago a forsaken beautiful wilderness of interlacing highly-worked arches, has been taken in hand, and by last summer the greater part of it had been re-chiselled and botched into the commonplace uniformity which delights the heart of the restorer. And now, not content with its northerly spoils, the plague is passing southwards, and ominous things are being said of those wonderful ninth and tenth century churches in the Asturias, which Mr. Tozer was fortunate enough to see in the old days when few others besides Florez had wandered that way."

#### A CONCRETE HOUSE.

A GERMAN architect, named M. Liebold, thus describes a house lately built by him in Vorwohle for a manufacturer of Portland Cement:—"Although the house was quickly built, it yet seems to contain a *tour-de-force* of almost every constructive form for which concrete can be employed. The rooms are covered with various kinds of vaults, many of which have a very considerable span. Over the vestibules of the different stories—spaces 13 ft. by 17 ft.—three vaults are superimposed without the use of iron, and depend solely upon the vaults of the adjoining rooms for a counteraction of their side-thrust. The original and striking feature of the building is the great cloister-vaulted roof, which, resting on the four principal corners of the structure, rising through a story and a-half. At its base, the concrete of which it is formed is 1 ft. in thickness; at its summit, only from 4 in. to 5 in. It is to be regretted that it has received no architectural expression on the exterior; the objectionable Mansard is excused by Mr. Liebold on the ground that it was desired by his client. The outer walls of the house are 1 ft. thick; division walls and partitions being from 8 in. to 10 in. thick. In the cellar these dimensions are increased by 4 in. The walls are anchored at suitable points, and were built above ground by means of adjustable wooden boxes, into which the cement was poured. Below ground, the cellar and foundation-walls were cast in trenches, the collar itself not being excavated until after their hardening. The trenches, consequently, were dug to the depth

of the cellar below the level of the earth, plus that necessary for the foundation below its floor. This total depth must have been between 7 ft. and 8 ft., and can only have been obtained in firm soil. The concrete employed was composed of one part cement to seven and four parts respectively of gravel and sand. The stairs have treads of slate, and are cast so as to measure on the string 4 in. at the re-entrant and 7 in. at the outer angle of each step. In them a coal-slag was substituted with good effect for the gravel; the weight of the concrete thus prepared being but from one-half to one-third that of the concrete made with stone. The cornices, window casings, steps, &c., were formed of three parts of sand to one of cement, and were ready to be walled, or rather cast into the walls, as the building advanced. The entire cost of the house, which is in effect a cube with a side of between 50 ft. and 55 ft., was 4,300 dols., gold. From the itemised account it appears that all the interior vaulting cost 420 dols.; the stairs 82 dols.; and the roofs and the platform, 438 dols.—all in gold. The cost of the concrete walls, including the wooden forms, &c., was 13½ cents per cubic foot. The building was completed in four months, and its construction may be regarded as thorough in every respect. Immediately after it was roofed in, the inspector of buildings ordered the floors throughout the house to be weighted with 65 lb. to the square foot. This great weight did not produce the slightest hurtful effect on the vaults—not even a crack in the plasterings. As a preliminary experiment, a pair of concrete vaults were built last year in Vorwohle over a space 13 ft. or 14 ft., the length of which was divided into two equal parts by an iron  $\pi$  beam; the walls, also of concrete, were 12 in. and 8 in. thick. The centre of this vault was weighted on a space containing 31 square ft. with a weight of five tons, that is to say, over 330 lb. to the square foot; yet there was no displacement or crack either in the walls or vaults. As a further example of rapid construction, a bridge was built of concrete, and prepared for use in six working days, which was 24 ft. long and 12 ft. wide; and a smaller concrete dwelling-house, 43 ft. by 30 ft., was entirely completed in seven weeks.

#### NOTES OF WORKS.

**PORTS AND DOCKS IMPROVEMENTS.**—The works of the re-building Carlisle Bridge, and the erection of the new bridge further down the river, are proceeding steadily and satisfactorily. We hope shortly to present our readers with some notices in connection with these works and other port and docks improvements.

**THE GREAT NORTHERN RAILWAY—NEW BUILDINGS.**—The new buildings in Amiens-street are proceeding fastly towards completion, under the contractor, Messrs. Fitzpatrick, of Belfast. The masonry work is excellent, and the red stone used is very effective. We will reserve details in hopes that we will be unable to present our readers with an engraving of the building at an early date.

**JERRY BUILDING IN DUBLIN.**—A considerable amount of a low speculative class of domestic dwellings are at present in course of erection in the northern and southern suburbs. One aspect of the question is dealt with elsewhere in our columns.

**THE DUBLIN ARTISANS' DWELLINGS COMPANY'S BUILDINGS.**—We have visited two or three blocks of the dwellings erected by this company north and south of Dublin. As our visit was a rather hurried one, we hesitate to enter into details without assuring ourselves further. The walls of some of the dwellings show pretty fair brickwork, but the rooms in several instances are very contracted in size. The w.c. arrangements in some of the blocks appeared to us to be too limited; but more anon about the interiors and the sanitary appliances and drainage.

### THE EMBANKMENTS OF THE RIVER THAMES.\*

THE River Thames was the arterial drain for 5,264 square miles. Its source in Gloucestershire was 330 ft. above the mean level of the sea. It traversed 210 miles, and was tidal to Teddington Lock. In dry weather the discharge was about 470 million gallons daily. Its waters had been prevented from overflowing large tracts of land by embankments formed under various acts of Parliament. The removal of Old London, Westminster, and Blackfriars bridges, had enabled the tide to ebb and flow more freely, by which the navigable channel had been deepened. The width of the river was, however still very variable. Above Southwark Bridge it was 670 ft. wide, and the waterway between the piers of that bridge was only 600 ft. At Hungerford Bridge, before the formation of the Victoria Embankment, the width was 1,340 ft., whilst opposite Millbank it was only 610 ft., increased to nearly double that width at Battersea. Mud banks had formed along the foreshore, and between Westminster and Blackfriars about twenty-seven acres of mud were exposed at low water on the north side.

The first commissioners for embanking the Thames were appointed in 1367. Acts for constructing embankments and improving the navigation were passed in the reigns of Henry VIII. and of Elizabeth. Sir Christopher Wren proposed an embankment from the Temple to the Tower, after the fire of London in 1666. Sir Frederick Trench and Mr. Martin suggested similar embankments. In 1840, Mr. James Walker laid down a line for a northern embankment for the Corporation of London, to be raised 4 ft. above Trinity High Water. His line and levels had since been adopted. Various parliamentary commissions and committees had considered the subject. In 1862, an act was obtained by the Metropolitan Board of Works for the formation of the Victoria Embankment, from Westminster to Blackfriars Bridge. In 1863, another act was passed for the construction of the Albert Embankment, from Westminster to Vauxhall Bridge. And lastly, in 1868, the act for the Chelsea Embankment, from Chelsea Hospital to Battersea Bridge, was sanctioned. These embankments comprised about  $3\frac{1}{2}$  miles of river wall, and had reclaimed 52 acres of land.

The length of the Victoria Embankment was about  $\frac{3}{4}$  mile, and the area reclaimed was  $37\frac{1}{4}$  acres. The roadway was 100 ft. wide from Westminster to Blackfriars Bridge, and was continued nearly all the way from thence to the Mansion House of a width of 70 ft. The cost of the embankment had been £1,200,000, besides £450,000 paid for the purchase of property. The tides now rose higher than in former years. On the 15th of November, 1875, the tide was 17 ft. 1 in., and in January, 1877, it was 16 ft. 6 in. above datum. This had been attributed to the formation of the embankments; but it was ascertained that the cause was chiefly due to the removal of the old bridges and of other obstructions. This embankment was formed with a sewer and a subway for gas and water pipes in the retaining wall. The subway was 7 ft. 6 in. in width, and the sewer varied from 7 ft. 9 in. to 8 ft. 3 in. in diameter. The batter of the wall was slightly curved, and the wall was faced with granite, fine axed, up to high water line, and moulded above that level. There were steamboat piers and landing places at various points. The Metropolitan District Railway had been constructed along the whole of this embankment, the level of the rails being 17½ ft. below the surface of the roadway, which was supported by iron girders. The foundations of the embankment varied in depth with the nature of the ground, but were 32 ft. below Trinity High Water. They were formed partly behind whole-tide timber dams driven into the clay, and partly behind wrought-

iron caissons, the caissons being used in bad ground, and near to the bridges, and around the landing piers. The clay was reached at about 28 ft. below Ordnance datum, but near Westminster Bridge it was 32 ft. deep. The level of the foreshore sloped from 6 ft. above to 7 ft. below datum. The foundations were carried down to 20 ft. below datum; they rested mostly on the clay, and were formed of Portland cement concrete up to 12½ ft. below datum, at which level the brickwork commenced. The bottom portions of the iron caisson cofferdams were filled with concrete, and left in the ground permanently, and the piles of the wooden cofferdams were cut off under water at various levels, in both cases to protect the toe of the wall. The upper portions of the caissons were in half rings, and were capable of being used several times. When bolted together these rings formed an oval 12 ft. 6 in. in length by 7 ft. wide in the centre. The rings were 7 ft. 6 in. deep, and were of  $\frac{3}{4}$ -in. and  $\frac{1}{2}$ -in. wrought-iron plates. The lowest ring of each caisson was of cast iron, weighing about 32 cwt., and it had a cutting edge at the bottom. The caissons were bolted together longitudinally, and strips of felt rendered the joint watertight. These dams, like the timber dams, were supported by timber shoring from the land side, and the upper portions of the dams consisted of half caissons only, by which a considerable saving was effected. In each caisson there was a sluice, worked from the top, for admitting or discharging the tidal waters. The caissons were sunk by weighting them, and excavating within them by three methods: By men working inside, the water being kept down by pumping; by men working within, the water being excluded by pneumatic pressure; and by a telescopic dredger, the water being allowed to rise and fall within the cylinders. By the first plan 6 cubic yards, by the second 5.31 cubic yards, and by the third 10 cubic yards of material were excavated per diem. Again, according to the first system, a cylinder was sunk on an average in eight days and a-third, and the labour cost 14s. 6d. per cubic yard. By the second, a cylinder was sunk 20 ft. in eleven days and a-half, and the labour cost 12s. per cubic yard. By the third, a cylinder was sunk in less time at a cost of 8s. per cubic yard for labour.

The Albert Embankment was about 4,300 ft. long, and was similar in elevation to the Victoria Embankment. It had, however, neither sewer nor subway behind it. The foundations were carried to a depth of 30 ft. below Trinity High Water, and the wall was formed behind a whole-tide timber dam, partly of single piles closely driven and caulked. Opposite Millbank the river had been widened for a length of 800 ft. from 600 ft. to 720 ft. Good foundations for this embankment were more easily reached than on the other side. Part of the embankment wall was formed of concrete instead of brickwork, and the whole was faced with granite. The works cost £309,000.

The Chelsea Embankment was commenced in July, 1871, and completed in May, 1874. It extended from Battersea Bridge to Chelsea Hospital, and was upwards of  $\frac{3}{4}$  mile in length. The wall was composed of Portland cement concrete, faced with hammer-dressed granite. It had a sewer from 5 ft. 9 in. to 6 ft. 9 in. in diameter behind it, conveying the sewage from Hammersmith to the Western Pumping Station. It had reduced the width of the river from 850 to 700 ft., and had reclaimed  $9\frac{1}{2}$  acres of foreshore. The roadway was 70 ft. wide, and 5 ft. above Trinity High Water. The foundations were carried to 10 ft. below Ordnance datum, or 4 ft. under low-water spring tides, and they were put in behind a half-tide dam. A trench was dredged and concrete blocks were bedded upon the ground at low water up to 3 ft. 3 in. below datum. Above this level the concrete was filled in and bonded with the granite facing. The cost of this work, including the low-level sewer and roadway, was £134,000. The introduction of concrete in lieu of brickwork had effected a saving of about £21,000.

A short length of this embankment, opposite Cadogan Pier, settled in consequence of the removal of some piles, which formed part of the old pier, in front of it. The wall had since been underpinned from the land side, and its toe protected by sheet piling.

### OLLAMH FODHLA AND THE STONE OF DESTINY.

A NOTE in our "Adversaria Hibernica" column a few weeks since on Ireland's famous law-givers three thousand years ago, and a subsequent letter from one of our correspondents, has given rise to an interesting controversy. In some of our contemporaries the discussion has been taken up with much fervour, and among others the *Bedfordshire Mercury*. In the issues of March 23rd and April 6th of the last-named journal, appear two letters from a local writer, which we reproduce below. At this point of the controversy we prefer to let our English and Irish friends "hammer away" at the stone, in the hope that their "punching" process—to use a technical term—will result in an exact and truthful squaring of the materials. We presume that Mr. Lissack, whose name is mentioned in the heading of the first letter, is a local antiquary or authority of note in Bedford; if so, no doubt he will have a hit at the stone or the nut, and successfully crack the latter or the former:—

#### A NUT FOR MR. LISSACK TO CRACK.

Sir,—A question that seems to rival in interest the "Repeal of the Union," "Home Rule," or the "Release of the Fenian prisoners," seems now to be agitating the Irish mind. Nor is it the first time this profound problem has presented itself to the pens of the learned of Hibernia for solution, for, according to the *IRISH BUILDER* of last week—in which the question has been recently revived—an article, indicative of deep research, appeared in an ably-conducted, though only short-lived, magazine more than thirty years ago, in which the history of Ollamh Fodhla was partially traced. Who, then, was Ollamh Fodhla? According to O'Clery's "Leabhar Gabhula, or Book of Invasions and Conquests," he was the son of Fiacha Fionnsothaigh, and ascended the Irish throne, A.M. 3236, which he occupied no less than forty years. He received the title Ollamh Fodhla from his filling the regal office, and being a professor or doctor, and was elected king on account of his great knowledge, learning, and valour. He was the first king that held the Fes, or Parliament of Tara, and the first that ordained district chiefs in Ireland. He is represented to be the fortieth king of Ireland.

But my object in writing this is to get, if possible, a nugget of truth from the mine of ancient Hebrew history to confirm, or otherwise, the statement that is made respecting the celebrated Hebraic-Hibernian monarch, whose genealogy is not yet clearly traced. According to one writer, the Rev. J. B. Bartnette, in the *Jewish Chronicle*, of September, 1872, Ollamh Fodhla was no less a personage than the prophet Jeremiah himself, who with a remnant of the tribe of Judah emigrated to Ireland at the time of the Babylonian captivity, and became the great reformer, law-giver, and ruler in that famous Western Isle; that he brought with him "Jacob's stone," known in Ireland as "Lia Fail," or stone of destiny, now located, after many adventures, under the coronation chair in Westminster Abbey.

"The above, if true," a correspondent naïvely remarks, "may to some extent account for the fact that Ireland is the only nation in which the Jewish people were never persecuted—a fact gratefully (if the chosen people possess such a feeling) acknowledged by their teachers." Can our intelligent townsman, familiar with Jewish literature, throw any more light on this obscure, though deeply interesting historical subject? W. B. G.

#### THE CORONATION STONE, OR "LIA FAIL."

Sir,—That some historic interest is attached to the coronation stone that forms the seat, or, perhaps, more properly, the sub-seat, of the old chair in Edward the Confessor's Chapel, Westminster, familiar, no doubt, to many of your readers, and to which I referred in a former letter, is evident from the continuation of the subject in the correspondence columns of the *IRISH BUILDER*, a journal which enriches its pages with topics of sterling interest, beyond those that belong to the departments of art, of which it is the able exponent.

\* By Mr. Edward Bazalgette, Assoc. Inst. C.E., read at a meeting of the Institution of Civil Engineers, on the 9th Inst.

The writer on the subject in this week's number, April 1, is somewhat at fault. He says "To the Jewish writers only are we apparently indebted for a rational history of the first appearance in Ireland of this remarkable stone. Whether the account given by them be a correct one or not, the fact remains that in these days of Darwinism, &c., it is still regarded with veneration, her Majesty Queen Victoria having been crowned upon it, as most likely her successor will also be." Of course he will whenever it falls to the lot of the heir presumptive to ascend the throne. "For a long time," proceeds the writer, "before the birth of Christ, when Ireland was governed by a supreme monarch, this stone was used here as a coronation chair. In modern times the descendants of the Irish race, by whom Scotland was first peopled, borrowed the stone from its then custodians, the Irish nation, in order that their first king would be crowned upon it; and it was first used in Scotland at the coronation of Malcolm (Ceanmohr), A.D. 1057," where it was allowed to remain "until Edward III. of England, in the fourteenth century, seized it and removed it to Westminster." On the accession of James VI. of Scotland to the English throne the "truth of the Scotch prophetic verse" was verified:

"Or fate is false, or where this stone is found  
A king of Scottish [Irish] race will there be crowned."

The writer must have read history somewhat carelessly, or his statements would have been more precise and accurate. The first king of Scotland was Fergus I., who began to reign A.M. 3641, and was contemporary with Alexander the Great, and Darius the Mede. Malcolm Canmore, or large head, was the 89th king who reigned in Scotland, though not over the whole of that nation, Kenneth II. being the first king of all Scotland, and Malcolm the twenty-first, the son of that unfortunate Duncan who was murdered by the usurper Macbeth, whose regicidal deed furnished a subject for the strangely weird tragedy of our immortal dramatist, that bears the murderer's name. That Malcolm was crowned in 1057 is historically correct; but there is a different account recorded of the celebrated stone of Scone, Perthshire, once the place of royal residence. Instead of it being first used at Malcolm's coronation, it was first used by Kenneth II. on his obtaining a complete victory over the Picts in 839, and becoming king of the whole of Scotland. It was first brought to Ireland out of Spain by Simon Breccus; and from Ireland to Argyle, and thence to Scone, whence it was removed by Edward I., and not Edward III., when he, on subduing Scotland, carried away also the crown and sceptre and the rest of the regalia into England. This was in 1296, not in the fourteenth century, as the correspondent states. The prophetic distich in the original, said to be engraven on the stone, is:—

"Ni fallat fatum, Scoti, quocumque locatum,  
Inveniet lapidem, regnare tenentur ibidem;"

Of which there are various translations. Perhaps the following is as good as any:—

"Or Fate's deceived, and Heaven decrees in vain,  
Or where they find this stone the Scots shall reign."  
W. B. G.

It will, perhaps, afford some information to our English friends, and add to the interest of the subject by giving an extract from Roderick O'Flaherty's "Ogygia" (Hely's translation):—

"There is at this day, in the royal throne at Westminster, a stone called in English Jacob's stone, from the patriarch Jacob (I know not why so termed). On this monument the kings of Ireland formerly, in a solemn manner, took the omens of their investiture. There is an old tradition, confirmed by many ancient historians, that it was called fatal for this reason, because the princes of the blood-royal in the times of Paganism, standing on it, would usually try who should reign; if it would make a noise under the person who sat on it, it was an infallible sign of his accession to the crown; but if it proved silent, it precluded him from any hopes. Since the incarnation of our blessed Lord, it has produced no such oracle. Authors have made mention of a vocal-stone which was in a statue of an Egyptian king, afterwards broken by Cambyges to the middle of the breast. And you can see in Eusebius Evangel, book 5, of the delusive oracles of the globe that were suppressed and silenced since the birth of Christ. And Suidas in Augustus, and Nicephorus Calistus, in his Ecclesiastical History, another power is ascribed to this fatal stone, in the following distich, which Hector Boetius quotes:—

"Ni fallat fatum, Scoti quocumque locatum  
Inveniet lapidem, regnare tenentur ibidem."

The time that it came from Ireland into the possession of the Scots of Britain cannot be ascertained; but if I may be allowed to conjecture, it was in the reign of Kineth, who conquered and subjected to the

empire of the Scots the Pictish nation, and deposited that stone in the abbey at Scone, in the country of the Picts, where he transferred the palace; and it very probably was transmitted by Aid Finliath, the son-in-law of Kineth, who was afterwards king of Ireland, as an auspicious omen. Edward I., King of England, marching through Scotland with a victorious army, translated it to London. The augury of this stone was exploded and disused for the space of 300 years, until King James VI. of Scotland, on the 25th of July, 1603, was anointed King of Great Britain, France, and Ireland on it; and, after him, his son, in the year 1625, and his grandson (now reigning), the 23rd of April, 1661, were crowned upon it. There is no other manner of inauguration, with some of the northern nations, than unanimously to constitute the kings elect, lifted upon a stone with all possible acclamations and demonstrations of joy, as Saxo Grammaticus and others relate."

So writes Roderick O'Flaherty, the dedication of whose book to James Duke of York and Albany, bears date, "Galway, June 11, 1684." O'Flaherty was a painstaking historian, and is conscientious in giving his authorities for any traditions or historical statements he makes. His "Ogygia" was written in Latin, but he was well versed in his native Irish. The translation of his work by the Rev. James Hely (1793), however, needs much revision in the matter of Irish names; but we are not called upon to supply his deficiencies in that respect.

#### ADVERSARIA HIBERNICA, LITERARY AND TECHNICAL.

We gave in our last notes some instances of the employment of technical phrases in the works of native and foreign poets; but, to give extracts in detail and in illustration of the subject would lead to the occupying of too much space in a professional journal. To some extent Homer, Virgil, and other of the classic poets have used mechanical and technical terms with good effect; but words used by them floated on the surface of their poetry, and were not utilised in the way that some of our modern poets, who, besides having scholarly attainments, possessed a practical acquaintance with mechanical operations. An architect and engineer, or a building craftsman, or a worker in metals, having the true poetic faculty, and a fair knowledge, at the same time, of science or chemical laws, are each capable of using technical language with considerable power, by way of simile and illustration, without spoiling their poetry or the subject treated, or rendering it unpleasant to ordinary readers. During the present century several words have been incorporated into the English language which were previously purely technical, but through constant usage have now become ordinary words. Dozens of words will occur to the ordinary reader: for instance, jointed for united, dovetailed, mortised, soldered, welded, glued, tongued, and several other technical terms, similar or nearly similar in meaning, and so on with other words in other mechanical branches of trade and arts. The above and scores of other technical terms are now used in place of ones equally applicable and much older to the language. Compound technical terms are also of recent years often pressed into service both in prose and poetry in ordinary literature. The difficulty of the poet is not in using them, but in using them rightly, and assimilating them in giving new illustrations in treating of subjects often treated before by the use of the ordinary language of his grandsires.

Let us look into the classic poets, and in doing so we will take an extract from the translation of one of Virgil's works by a native writer. It is worthy of note that the extract we give below is from "A Free Translation of the First Book of the Georgics—Attempted by R. Comerford of Portarlington." This translation which appeared in the third, and is continued in the fourth volume of the *Anthologia Hibernica*, 1794, was never completed by the translator in that periodical. R. Comerford, if we are not astray, was Richard Edmund Comerford, a

portrait painter of some note towards the latter end of the last century and commencement of the present, but he was rather unsuccessful in the pursuit of his art. He, among other productions, is the author of the "Rhapsodis, or Mes Souvenirs in art Epistle to Aristus," 8vo, 1817. In the last published portion of Comerford's translation of the first book of the Georgics, he renders his classic author thus:—

"But chief the Sacred Plough thy care demands,  
The Plough, the strength, the glory of thy lands,  
Formed of tough elm, the solid beam should bend,  
Eight feet in length the slender yoke extend,  
The handles firm to ease thy painful toil,  
The delving share to rend the stubborn soil;  
Beech be the yoke—and toil that guides the team,  
On rolling wheels suspend the compact frame,  
Then let the thick smoke, and gentle heat of fire,  
To brace the new made engine both conspire.

Be next attentive to thy thrashing floor,  
With unctuous loam its surface cover o'er,  
Then let the pond'rous cylinder's huge round,  
Incessant rolling, level all the ground."

Comerford's translation throughout is interesting, though not very brilliant; but as he has the candour to confess it is "a free translation," we will not be too critical. Handled by a scholar and a true poet, a man of scientific knowledge and well acquainted with mechanical operations, we have no doubt but the works of Homer and Virgil would evidence in many portions considerable improvement in mechanical descriptions. Pope's Homer flows freely, and indeed his translation, like Comerford's attempted, might be called a free translation. A military poet of ability would doubtless render portions of Homer's poems with considerable power, particularly what appertain to glittering steel, prancing steeds, and the dash and crash and the smash of ranks. Every poet, as it were, may infuse a portion of the peculiar spirit of his work-a-day profession into his poetry, and, deftly handled, that portion will be found to be not the worst part of his performance. What pleases a man most, if he has the poetic faculty, he will seek at some time or other to give expression to it in the most suitable form he can. The study of nature inspires, and so may the pursuits of art and handicraft. Love of nature and nature's belongings excite the fancy, though the fields, the streams, the glens, the mountains, and woods, be far distant; but the love of one's art or craft, and its scope and surroundings, appeal as strongly to the true poet for expression, and he will not find it difficult to make his art in one form or another the theme of his song.

The atmospheric line of railway between Kingstown and Dalkey has for several years become a memory of the past, though upwards of thirty years since great hopes were entertained of its ultimate success, and its extension to Wicklow and to the working of other railway lines at that time projected. The utilisation of the atmosphere as a motive or propelling power is a subject that still commands attention, and the air is still used in many ways as a propelling power. The postal and telegraphic authorities in London and Dublin have for a considerable time used pneumatic tubes, through which communications, letters, and packets are conveyed from railway termini to the central office, the driving power being the air, the tubes being first exhausted, and anon the air let rush in as the driving medium. Professor Kane, in his "Industrial Resources of Ireland," 1844-5, in speaking of atmospheric pressure in connection with the Dalkey and Kingstown line, appears to have entertained a high opinion of the usefulness and future success of the experiment. He writes thus:—"The only source of expenditure in an atmospheric line which does not exist to us great an extent in the locomotive line, is that of the iron exhaustion pipe. This, however, cannot be equivalent to the sources of economy I have described, and hence I do not hesitate to conclude that in regard to facility of execution, of economy in working and construction, and in safety and rapidity of transit, the principle of fixed power working by atmospheric pressure, deserves the most

attentive consideration on the part of those engaged in railway enterprises, especially in this country, where the substitution of cheap coal or turf, or still cheaper water-power, for expensive coke may, in many districts, make a difference between a profitable line or a losing speculation." Professor Kane then goes on to describe the condition of the Kingstown and Dalkey experiment, which may be worth producing for the benefit of those who never witnessed or travelled on the Kingstown and Dalkey line, which we have done many years since when it was in operation:—"Such being the general conditions of the application of atmospheric power to locomotion, it remains to notice the general construction of the trial line now in operation between Kingstown and Dalkey. It is erected on a line of tramway formerly used for conveying stone to Kingstown Harbour. The total length is a mile and three quarters. Its average inclination is 1 in 15, but in some parts it is 1 in 57—a slope on which a locomotive engine could move little besides itself. It presents several curves sharper than any constructed on ordinary lines of railway [up to that time], and less than an eighth of a mile radius, so that on this short line there are so many obstacles that its success may be considered decisive, so far as the application of power is concerned. The engine at Dalkey is 100 horsepower—this is, for ulterior objects, much greater than that required. The usual average velocity of the train ascending the line is thirty miles, but a velocity of sixty miles per hour is easily obtainable. The trains descend the line from Dalkey by the force of gravity. They usually occupy about three minutes and a-half in the ascent, and about four minutes in the descent of the mile and three quarters. The pipe on this line is 15 in. diameter. It is in 10 ft. lengths, which each weigh 12 cwt. There should be, therefore, per mile 528 lengths, weighing 317 tons, and the iron in the screws and valves might amount to about sixteen tons of iron per mile of single way, which is the only point in which this mode is more expensive than the ordinary railway." Under our present-day system of long lines, loop lines, junctions, sidings, &c., the atmospheric system is not applicable in the manner in which it was worked on the Kingstown and Dalkey line. In short, single branch lines on the atmospheric principle could still be worked. Under modifications we have little doubt that atmospheric pressure will be returned to again as a driving or motive power for locomotive and other engines.

Anything concerning Shakespeare, his works and descendants, is read with interest in the present day. Well, we have made no new Shakespearian or Spenserian discovery, but some short communications in the form of letters appeared in the *Anthologia Hibernica* in 1793 respecting these distinguished authors, which may be worth reproducing in these columns. Concerning Shakespeare, a correspondent over the initials P. R. R., writes:—"There lived in Drogheda about fifty years since [say 1743], one Guy Harrison, who boasted his descent from Shakespeare. He said he was his grand nephew, and delighted in speaking of his uncle. I had this anecdote from a gentleman who often conversed with him, but was then too young to take much interest in anything that related to the immortal bard. Harrison kept a little shop in which he sold thread, tape, lace, and other small haberdashery—his circumstances were indigent. Should not some enquiry be made concerning the family of Harrison? Perhaps if he had any children some of them may be still in being."

Concerning Spenser, the correspondent who signs his letter O. W., writes:—"In the second number of your publication a descendant of the immortal Shakespeare is said to have been living about fifty years ago at Drogheda. I lately heard, that within a few years, a lineal descendant and namesake of the celebrated Spenser, was resident at Mallow—that he was in possession of the

original portrait of the poet, which he valued so highly as to refuse £500 which had been offered for it—with many curious papers and records concerning his venerable ancestor. A few years ago in London, a folio MS. fell into my hands, containing Spenser's Dialogue between Endoxus and Ireneus, on the State of Ireland. It is in some places carelessly written; and from several corrections and erasures, &c., seems to have been a copy of the author's; it is dated 1793. I have not had an opportunity of examining whether it differs in any respect from the printed copy." We are not aware that in any account of the lives of Shakespeare or Spenser, the above communications have been utilised. They are, however, interesting, and, as notes, they might be given in the lives and works of the above authors for what they are worth.

H.

#### PORTLAND CEMENT AND TEMPERATURE.

THE extended use of Portland cement in many countries since its first production in England has led to the institution of many important experiments. A paper on "The Use and Testing of Portland Cement," by Mr. W. W. Maclay, C.E., submitted to the American Society of Civil Engineers, occupies a whole part of their "Transactions." The experiments are tabulated. We (*Builder*) condense a portion of it.

One series of experiments is intended to illustrate the effect of mixing up Portland cement, both neat and gauged with two volumes of sand, in extremely cold weather; also, under the same conditions, the effect of heating the cement, sand, and water, in order to hasten the setting. The results deduced from these tables are clearly marked, and some of them are quite at variance with prevailing ideas among the profession. They show, almost indisputably, the very injurious effects of heating mortar in cold weather (under the false impression that the setting of the cement is thereby accelerated), and that the greatest amount of evil is accomplished when this heated mortar is immersed directly in cold water. They also show how comparatively little the strength of Portland cement mortar is injured by being mixed up in extremely cold weather, provided the materials are not heated. All of the tests from which these tables have been formed were made of Burham cement, tensile strength, neat, seven days old, 278 lb. per square inch; weight, per struck bushel, 119 lb., and containing not more than 15 per cent. of particles over 1.50th in. in diameter. In order to have the conditions as nearly as possible the same, two sets of briquettes were generally made at the same temperature, in the open air,—one in which the mortar or cement paste averaged about 40°, and the other in which the cement, water, and sand were heated up to 100°. These two sets were kept in precisely the same manner, and broken together on the same day, so that any change in temperature during the seven days would necessarily affect them alike. As soon as the cement had set sufficiently to allow removal from the moulds, part of the briquettes were placed at once in the North River, temperature from 31° to 33°; part of them were left out of doors, exposed to the action of the weather; part immersed in water, maintained at 70°, during the seven days; and the remainder were kept in air, maintained at 70°, during the same time. The averages show that of the briquettes mixed up cold, the tensile strength was the least with those exposed during the seven days to a heated atmosphere, and that it was the most with those immersed in heated water during the same time.

The results of placing the briquettes in the cold river-water, and of exposing them in air outside during six days to the action of the weather, were about the same.

The briquettes of pure cement made by heating the materials until the cement paste stood from 96° to 98°, with the temperature of the air in which they were mixed varying

between 13° and 19°, and being exposed for six days to the action of the weather, only proved to be from 7 per cent. to 16 per cent. as strong as when they were mixed up without heating, or with the temperature of the mortar at 40°. When the air in which the cement paste was gauged varied from 32° to 37°, the briquettes made with hot materials proved to be 20 per cent. as strong as the cold, and when the temperature of the cement paste of the heated briquettes was only brought up to 70° instead of 96°, they reached 72 per cent. of the tensile strength attained by the cold ones.

When, instead of gauging the cement neat, two volumes of sand were added, with briquettes made under the same conditions as the preceding, the tensile strength per square inch, at the end of twenty-eight days, in those in which the mortar had been heated to 98°, only attained 30 per cent. of the strength shown by the briquettes made from cold mortar, which in this series of experiments stood at 40°.

In all these comparative experiments as to the merits of heating the materials in cold weather, whenever the briquettes made from hot mortar or cement paste were immersed in either cold water from the river or in warm water in the testing-room, they invariably dissolved into shapeless lumps, which subsequently set in a partial manner, although, from having lost their shape, it was never possible to break them in the testing-machine, and so compare their strength directly with that of briquettes made from cold materials. However, by breaking lumps into pieces with a hammer, at the end of five or six months, their value was found to be scarcely anything as compared with the briquettes made up cold. From this we should conclude that, while mixing the mortar up hot, for use above water, in extremely low temperatures, greatly reduces its normal strength, to immerse it directly in cold water under these conditions is to destroy its value almost entirely.

Calling 100 the tensile strength per square inch of the briquettes, gauged with neat cement, and with two volumes of sand, and mixed up cold, in temperatures from 13° to 22°, for mortars heated to 98°, the briquettes, at the end of seven days, rarely exceeded 10, or at the end of three months, 30. These percentages are deduced from averages from a large number of experiments. In the same manner, calling 100 the tensile strength per square inch of briquettes gauged neat and mixed up cold, in temperatures from 32° to 37°, when heated to 70° the value of the briquettes fell to 72; when heated to 100°, their value became 20.

Having given the percentage of injury done by the heating of Portland cement mortars, intended for work above water, when mixed up in temperatures varying from 13° to 37°, taking the strength of cold mortar, put in under the same conditions, as 100; in order to make the comparison complete, it only remains to give the values of cements mixed up, without heating, from 13° to 70°, which may be summarised by saying that the effect of mixing up mortar in temperatures varying from 32° to 37°, is to reduce the tensile strength at the end of seven days, which they would have had mixed up in a temperature of 70°, by about four per cent.; to mix them up in temperatures varying from 13° to 22° is to make this reduction about 14 per cent., and for any of the intermediate temperatures, between 70°, 32°, and 13°, the reduction would vary between 0—4 and 14 per cent. The above figures are deduced almost entirely from seven-day tests, and their relative values have been found to hold good, with slight variations, up to an age of three months. For longer periods the briquettes have not yet been broken.

This series of experiments was commenced (1876-1877) while the writer was building a concrete arch, the piers of which were situated in a rapid tideway, and had been built up to low-water mark. It was feared that if the work was not continued, the centering would be carried away by the ice, immense fields of which were daily coming in contact with the

piers. The question arose, should the concrete, which was made of Portland cement, be put into the work hot, and should it be put in at all during exceptionally low temperatures? It was decided that the concrete intended for under-water work should be put in cold; above water, hot; and that the work should be carried on whenever the concrete could be mixed up without freezing on the shovels of the concrete-mixers. Concrete (by volume one part cement, two parts sand, and four parts broken stone) was frequently put in the work when the temperature of the air was 25°, to be submerged by the tide after the lapse of an hour or two, the temperature of the salt river water being 31°. When the work was exposed at the next tide the concrete was found in good condition. In the same manner, above the action of the tides, concrete was frequently mixed up and put in the work with the thermometer standing at 25°, and upon one occasion when the day's work terminated the thermometer stood at 23°. Granite was also set under the same conditions, and levels taken upon it the ensuing spring showed no settlement.

In the commencement of the winter the concrete above the tide was heated. For this purpose portable furnaces or heaters were used for the stone and sand, and steam for the water. This practice only continued a short time, however; for, as the experiments with the hot and cold briquettes progressed, the surprising superiority of the cold mortar was so clearly shown that the heating was at once abandoned, except to thaw the frost out of the stone and sand, which were frozen so hard during the nights as to be unfit for use in the morning when the work commenced without heating them. The concrete which had been put in hot was very carefully examined when the weather was sufficiently warm, by cutting test-holes several feet deep into the mass, exposing the layers that had been put in under the two systems—hot and cold. Very little difference could be detected by this examination: the concrete which had been put in hot in very cold weather being apparently as hard and difficult to cut out as that which had been put in cold. The writer accounts for this apparent non-confirmation of the experiments by actual practice by the following explanation:—The concrete made by heating stone, sand, and cement, separately, from a scarcity of heating apparatus, never rose in temperature much above 50°, which in air at 25° appeared much hotter than it really was. Heated, therefore, to 50°, the concrete was but very little weakened; for, as it has been shown in discussing this table, with the temperature of the air at 32°, and the mortar at 40°, 70°, and 100°, the tensile strengths stand 100, 72, and 20. In other words, this weakening would not be discovered by any examination except that of breaking the specimens in a testing-machine. Fortunately, none of the concrete submerged by the tides was put in hot; for, as it has been previously stated, this is the most unfavourable condition under which Portland cement mortar can be prepared in cold weather. This fact seems to be but little known among the profession, and by some of our engineers has been entirely ignored in their practice. From the experiments on this subject, it seems very conclusively shown that no good work can be done under water in winter if the mortar is heated; and where such work has been done, if subjected to careful examination, signs of failure will probably be detected.

In the above experiments, all the briquettes of mortar mixed up cold seemed to set, and not to freeze even in as low temperatures as 13° and 14°, except when the day was windy. With the briquettes made of hot mortar, on the contrary, they all invariably froze, as was proven by their getting soft again whenever the temperature rose. This fact probably accounts for the hot briquettes, when placed in water, always dissolving: its higher temperature causing them first to become soft and then to separate. The peculiarity of Portland cement setting in a low temperature, in which another cement

would freeze, has been noticed by most writers on Portland cement, but no limits assigned to this action. M. Ed. Leblanc, in a note written in Boulogne in 1865, says, "Among the number of remarkable properties of Portland mortar, it is necessary to notice that of not being destroyed by the frost. 'Portland mortar does not freeze,' our masons say; which permits the execution of Portland masonry works in the latter part of autumn, and even in winter in urgent cases. Thus cakes of Portland mortar that we have exposed to the frost immediately after they were made, before they set, cracked deeply and in part became disintegrated; but the detached fragments after they thawed, even to the smallest, were found perfectly hard."

Part of this experience of M. Leblanc is different from that of Mr. Maclay; for none of the briquettes, mixed up cold, cracked in the slightest degree when exposed to the lowest temperature, which, in some of the above experiments, went down to 11°. That the mortar should become hard after thawing is, however, in complete accord with the results deduced from the experiments, and also with the prevailing opinions upon this point; for example, Mr. J. Dutton Steele, in a recent note published in the correspondence of the society, says, "Cement mortar is not seriously impaired by being laid in frost, as its property of setting is simply held in suspense during the time it remains frozen." This is true with Portland cement mortar, as with all other mortars; only, with Portland cement it takes a very much lower temperature to freeze it.

#### HOME AND FOREIGN NOTES.

**THE SANITARY CONDITION OF DUBLIN.**—The rate of mortality is still high in the city; smallpox is somewhat prevalent, and the scavenging system is most imperfect. Many of the streets are in a bad state for want of a proper pavement.

The Metropolitan Railway Company, London have decided to supersede their present mode of lighting the carriages by coal gas as quickly as possible by the adoption of Pintsch's compressed oil gas system, to which the Society's gold medal was awarded last Session. This system has also been adopted by the Great Eastern Railway company for a large number of their carriages, and it has gained much favour and extensive adoption on German lines.

The dissolution, by mutual consent, is announced of the partnership existing between Richard George Guy, Robert Alexander Stewart, and John Stewart, trading as G. Guy and Co., timber merchants, 34 Lombard-street. We learn from a St. John, N.B., paper that the firm will in future conduct their business in America under the style of Guy, Bevan, and Co., with head-quarters at Miramichi. Mr. Arthur Shirley Benn is the representative of the firm in New Brunswick, and they will shortly open an office in St. John. They have an office for their State trade in New York, and one at Darien, where the principal business is in pitch pine.—*Timber Trades' Journal.*

**PLUMBERS ON STRIKE.**—The plumbers of Edinburgh, to the number of 200, went out on strike on Saturday, in consequence of a notice issued by the masters that the men would be required to walk to their jobs, when within city boundaries, in their time. Last week the plumbers of Nottingham "turned out," owing to the masters refusing to pay an advance in wages, which, it is alleged, they promised the men. Last October the men, who were paid at the rate of 9d. an hour, agitated for a rise of 1d. per hour. After a good deal of discussion the masters, it is said, agreed to pay an immediate advance of ½d. per hour, and promised a further similar rise on the 1st of April.

**THE METROPOLITAN SCHOOL OF ART.**—The distribution of prizes by his Excellency the Lord Lieutenant to the successful students at the Metropolitan School of Art (late Royal Dublin Society School) is, it is said, to be discontinued. Such ceremonies result in an amount of good to art which cannot be overestimated. The omission, therefore, of an event of such importance is to be regretted, being calculated to depress the energies of the students, especially as the past year's competition

has been one of unparalleled success for the students in the Dublin School of Art. The much-coveted prize, the "Prince of Wales's Scholarship," was won by a student of the Dublin School; by others, one gold medal, one silver and two bronze medals, and two Queen's Prizes—a goodly array of prizes, considering the comparative number of competitors.

**THE LATE SIR G. GILBERT SCOTT.**—The funeral of this distinguished English architect took place on the 6th inst., at Westminster Abbey, and was of an impressive character. It was largely attended by the representatives of his own and other kindred professions. The vault in the Abbey in which the architect's remains are interred is lined at the bottom with encaustic tiles, disposed in a chequered pattern, with an immense black cross extending over its entire length. The coffin—which, as it was lowered into the grave, was covered with bouquets, garlands, and crosses of flowers—is of polished oak with brass fittings. On the lid is a large brass cross springing from a pedestal, on the base of which are the words,

MEMENTO MEI DOMINE JESU.

On a square brass plate beneath the cross is the following inscription:—

GEORGE GILBERT SCOTT, EQUITI  
VIRI PROBI ARCHITECTI PERITISSIMI  
PARENTIS OPTIMO RELIQUO HIC  
IN FIDEM JESU XPI RESURRECTIONEM  
EXPECTANT. OBITI 27<sup>th</sup> DIE MARTII  
ANNO SALUTIS 1878<sup>æ</sup> ETATIS 67<sup>æ</sup>

The Lords of the Committee of Council on Education have directed that a special Loan Exhibition of furniture, cabinet-work, and ornamental wood-work used in the interior of dwellings shall be held in the Bethnal Green Museum, London, during the summer months, commencing on the 1st prox. This will occupy the space rendered available on the ground-floor of the museum by the removal to Paris of the Prince of Wales's Indian presents till lately shown there. Their lordships understand that the manufacture of household furniture is largely carried on in the east of London; hence they believe that the proposed Exhibition will be of special interest in that district. Her Majesty the Queen has directed that a selection from the furniture of the royal palaces shall be included in this Exhibition.

**NEW BUILDING REGULATIONS FOR GLASGOW.**—The Town Council of Glasgow, at a meeting held on the 9th inst., resolved to apply for a provisional order and statutory powers to effect certain alterations and amendments on those sections of their Police Act relating to buildings. The proposed changes would give additional powers to the Dean of Guild Court, and affect the rights of property in various ways, yet the council has decided upon their adoption after about half-an-hour's discussion, without any of the parties most likely to be affected having had an opportunity of considering them. Several members of the council protested against this indecent haste, and pointed out the difficulty of forming a just estimate of the effects of such regulations on various interests without mature consideration, and Mr. Salmon, F.R.I.B.A., entered his protest against the resolution which was adopted. The majority, however, carried matters with a high hand, and rejected even the moderate proposal of Mr. Walls: "That instructions be given in meantime to prepare the provisional order, and that that order be submitted to the meeting this day fortnight." Considering the magnitude and complexity of the interests involved, it is to be hoped that the Government will see it to be its duty to protect the public from such crude and hasty legislation.

#### TO CORRESPONDENTS.

**THE TREES IN SACKVILLE-STREET.**—A friend has called upon us to assure us of the fact that the trees are not all dead, and that he has actually discovered, during the past week, some buds upon one of them.

**ANTIQUARY.**—The "Stone of Destiny," and other matters appertaining, are alluded to in our present issue.

**LIME-STONE GRAVEL.**—If some of our medical men are reported aright, they have made a sorry hash of the subject of lime-stone gravel at a late meeting of a medical society. Well, what can be expected where professionals will not keep to their own business, and we all know "doctors differ."

**W.B.**—Send us on the drawing for inspection.

**C.E.**—The engineer of the Dublin Port and Dock Board—Mr. Blonden R. Stoncy.

**E.C.**—We have not heard anything recently of "The Continental Advertising Refractory Plate Company, Limited." In its prospectus (now before us) it was announced that the method projected "is by neatly designed advertisements on the rims of refreshment plates, dishes, saucers, &c., which are to be made of porcelain, china, earthenware, or other material, and to be distributed amongst the different hotels, restaurants, and cafes in the chief cities and towns of France and Belgium." The calculation has been made that "10,000 plates will be seen by 35,000 persons per day, equal to 12,740,000 per annum."

**RECEIVED.**—An Architect.—M.D.—R.E.—Sanitas.—A Citizen.  
T.C.—R.D.S.—A Stonemason.—J.W.C.—M.A.—G.C., &c.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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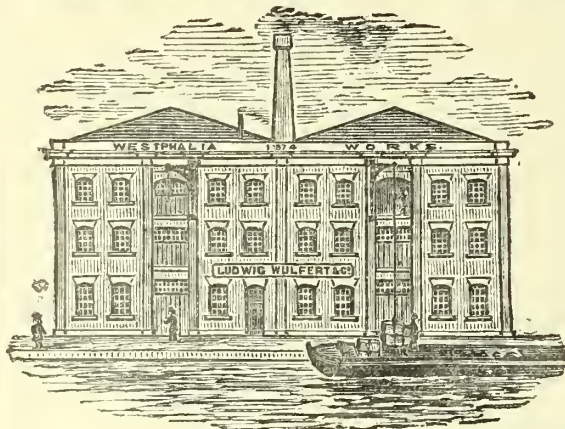
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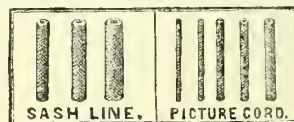
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Contents.

|  | Page |
|--|------|
| PHASES OF PROGRESS AND DECAY IN DUBLIN .. ..   | 129  |
| " Medical Sanitariums and Architects " .. ..   | 130  |
| Irish Exhibits and Artisans at the Paris Exhibition ..                                       | 130  |
| Obituary—Mr. John Sibthorpe .. ..  | 130  |
| Re-opening of Aghade Church .. ..  | 130  |
| Royal Hibernian Academy Exhibition .. ..   | 130  |
| Adversaria Hibernica—Literary and Technical .. ..  | 131  |
| Serious Explosion in a Foundry .. ..   | 132  |
| Correspondence—Gas without Gas Works or Gas Meters ..  | 132  |
| The new Church of St. Paul of the Cross, Mount Argus, County Dublin .. ..                    | 132  |
| Notes on the Rise and Progress of Printing and Publishing in Ireland—Twenty-first Part .. .. | 135  |
| Lectures on Architecture .. ..   | 136  |
| Notes on the Early History of the Irish Stage .. ..  | 137  |
| The Paris Exhibition .. ..   | 138  |
| New Organ in Wicklow Church .. ..  | 140  |
| Proposed new Bridge over the Thames .. ..  | 140  |
| Health and Sewage of Towns .. ..   | 140  |
| Books Received .. ..   | 140  |
| Intended Congress of the British Archaeological Association .. ..                            | 140  |
| Exhibits of the Royal Dublin Society .. ..   | 141  |
| Re Boiler Explosions .. ..   | 141  |
| Drainage and Doctors in Dundalk .. ..  | 141  |
| Staves and Casks .. ..   | 141  |
| Home and Foreign Notes .. ..   | 141  |
| Tenders .. ..  | 141  |
| To Correspondents .. ..  | 141  |

THE IRISH BUILDER.

VOL. XX.—No. 441.

PHASES OF PROGRESS AND DECAY IN DUBLIN.



DUBLIN, its highways and byways, has been known to us from our earliest years. There are but few of its streets, courts, lanes, and alleys we have not traversed over and over again at different intervals of time. We are not locally prejudiced in its favour on that account,

for we are conscious of its many defects as well as of its points of interest and beauty, city and suburban. Having visited and resided in many English, Scotch, and Continental cities and towns, we are capable of drawing comparisons and conclusions, and of, perhaps, seeing ourselves as others see us. We are certainly in Dublin, architecturally and socially, behind many other cities and towns, and our people have not yet realised, and may not for a long time to come realise, their position and that of the city they inhabit. Little partial spurts of activity are taken for signs of progress, and small improvements for great ones; but we have closed our eyes, and are still keeping them closed, to the marked signs of ruin and decadence which are observable north and south of Dublin.

Before we were born, a large district on the south side, known as the Liberties and Coombe had, from the decay of the manufactures and industries that once gave it a vigorous life, lost most of its old and wealthy occupants, and become the abodes of humble working-people, the refuge of the poorest of the poor, and the chronic home of poverty and the direst want. For many years, however, several struggling manufacturers and a few opulent ones clung to the spots where their fathers and grandfathers lived, and successfully carried on business before them; but disaster followed disaster, and at last

we witnessed the great staple industries of the Liberties and Coombe and the surrounding district almost completely wiped out. Breweries and distilleries still thrive in the midst of ruin, dilapidation, rags, and wretchedness. Tumble-down homes are now where busy hives of industry existed; and idleness, drunkenness, and ignorance where many hundred looms were heard working from morning till night; and scores of marts, workshops, and foundries turned out daily heavily-weighted wagons of native manufactures.

We have walked within the past few days through a large number of the streets, courts, and lanes that we knew so well in our early days, and we cannot express the feelings that moved us at the sights we witnessed. We passed into the hall-ways and up the broad staircases of the mansions that once were occupied by wealthy city merchants, town residences built in the reign of Anne and the First George, with their panelled partitions, their wooden cornices, their doors with sunk and raised panels, and their other evidences of grand constructive carpentry and joinery work. Outside, as well as within, we scanned these old mansions, with their crowfoot and pedimented gables, their stone lintelled windows, their fine old porches and doorways, columned and pilastered, their scroll and other carved work, grand masonry, brickwork and joinery; and, on looking, we thought of old times, of days departed, and never to return. Alas, and alas! sickness and sorrow were around us and beside us everywhere we turned, and grinding and beseeching want breathed into our face. One half of the world, it may truly be said, does not know how the other half lives; and, indeed, it may be added with truth, does not care to know. Pass with us, ye proud city dames, in silks and fine linen, and non-descript trappings; ye who lounge in your carriages outside garish drapery establishments in the city's centre; or ye who promenaded the broad walks of fashionable Sackville and Grafton streets—pass with us for even one half hour into the back slums, and particularly of the deserted Coombe and Liberties, and we will show you pictures of sin and suffering—aye, and of virtue and poverty too, that will surprise you; for morality can live and does live in the back slums, as well as in the bright and open squares and gilded drawing-rooms through which you move and while away your joyous lives, unimportuned by God's poor, with the glaze of dissolution in their eyes and the death rattle in their throats. Oh! the extremes of worldly wealth and human wretchedness that are to be daily witnessed in our city is terrible to contemplate. Fathers and husbands, mothers and wives, sons and daughters well provided for, think of it, think well and long, and henceforth devote a little of your energies and time to raise up the poor and the fallen, to visit and console the poor, and mitigate the heavy burdens that are pressing them down to earth into premature graves.

Municipal administrators! how can you expect health in a city that is choked full of dirt and rottenness in its back places, streets and courts that are seldom swept, halls and staircases that are clotted with the dirt of buckets, aye even years. The wash tub and bucket are utilised to be sure, but more for the cleansing of the rags of the poor than for the cleansing of their homes. Indeed it need scarcely be wondered at, why the home

cleanliness is neglected in portions of the old city, when the Corporation are so criminally neglectful of cleansing the back streets and alleys in which the abodes of the poor are situated. The poor should be assisted, but when cartloads of dirt are left for days outside the habitations of the people, smoking in the sun, and giving off poisonous exhalations, need it be wondered at that small-pox and fever are rife?

Turning our footsteps towards portions of the north city, extending from Oxmantown to Ballybough Bridge and even further, we witness similar evidences of ruin, want, dirt, and corporate neglect. We have been astounded at several sights in streets in the north city as well as in the south city; and if curses could do aught for humanity and sanitary reform, we could have cursed, but cursing availeth not, and we must be content to expose openly and nakedly to our friends and foes the social evils, and moral distempers which are eating the very vitals of the city, and branding it with a disgrace which is hard to bear. Though our people are often more sinned against than sinning, what foreign visitor and stranger can truly understand their condition, or trace to its sources the causes of the evils that afflict them, and which they are unable to remove without the assistance that should be rendered by local rulers, who are more personally interested in their own affairs and the propagation and upholding of their political and religious games, than forwarding the common weal. Anyone,—and there are hundreds who remember the respectable residences that existed and were fully occupied by wealthy and prosperous tenants in the streets of the north city a quarter of a century ago,—would be thunderstruck at the state of these houses at present were he to spend a few hours in an examination of them. Take the line of Great Britain-street, for instance, from Capel-street to the Circular-road or Summerhill. On either side there are many private streets—Stafford, Jervis, Dominick, Marlborough, Cumberland, Gardiner, Rutland, Buckingham, and several other streets. The majority of all the above are going to rapid decay, and are inhabited for the most part by tenement lodgers.

The fine houses in North Cumberland-street and along Summer-hill and adjacent streets, are sad pictures to-day compared with what they were a quarter of a century ago, when they were respectively inhabited by private families, by wealthy merchants and professional men, including members of the nobility and gentry. The house property in the above districts has sadly fallen upon evil days, and houses that let at £60 and £100 and upwards a-year, have now all their rooms from kitchen to garret occupied by tenement lodgers. These houses, let it be remarked, are totally unfitted for the accommodation of a number of separate families. Their original arrangement was suited to the wants of one household, and, sanitarily speaking, they are unfitted at present to house a number of families, notwithstanding their size. A large number of these houses, with a little outlay, might be altered or reconstructed for the healthy occupation of artisans or other working men, and could supply the places of some of the projected artisans' dwellings, now about being erected in this city.

Even beyond the Circular-road and across the River Tolka several of the pleasant and

once respectable avenues, possessing valuable house property, are going down, or have already gone down, and their former residents have fled from them as from the approach of a plague.

In Richmond, house property is now at a woeful discount. Old well-built houses, which brought in good rents to their owners, are empty, and are likely to remain so, unless some extraordinary re-action for the better should take place. It has been pretty plainly and openly stated and accepted on all hands as the truth, that the erection of distillery buildings on the banks of the Tolka, at Richmond, gave the finishing blow to this once pleasant and healthy locality. Phillipsburgh-avenue, in the same locality, has lost all its wealthy inhabitants, and few old residents remain. House property, in this once most respectable, pleasant, and healthy locality, has greatly fallen within the last twenty years, and out and about here small are the evidences of progress and new improvements.

We would tire the reader were we to enter into long details, and to enumerate other places in the northern city and suburbs, which have gone into rapid decay. Towards Blackrock, Kingstown, Dalkey, and Bray, in the southern suburbs, out and about and beyond Rathmines, the tide of fashionable population has been flowing for several years; but, notwithstanding this exodus, we anticipate a partial return at least before long to the once-favoured northern suburbs. New house-buildings are extending north, north-east, and north-west; and, though many of these new houses are of the cheap-speculative kind, more of them, which we have visited and examined, present very fair specimens of building construction, and good rents are obtainable for them.

To sum up. Strange architectural and social contrasts are, at present, to be witnessed in Dublin. While some architectural progress is evidenced in a few of the leading streets in the city, large portions of its older centres in the north and south are going into decay and ruin, at the same time that new neighbourhoods are springing up in portions of the outlying suburbs beyond the North and South Circular-roads, where fields and large orchards, and market gardens existed a few years ago.

#### "MEDICAL SANITARIANS AND ARCHITECTS."

AN article in our last issue elicited the following remarks in the *Medical Press and Circular* :—

THE IRISH BUILDER has, it appears, a grievance against Irish medical officers of health in general, and those of Dublin in particular; and a special marked copy of our contemporary having been forwarded to us, we are, we presume, expected to reply or submit to judgment against us by default. We plead incapacity to answer, because, having read the statement of the case by the BUILDER, we fail completely to comprehend its meaning. The BUILDER does our profession the distinguished honour of acknowledging that medical officers of health, when they are men of long experience, are a very useful class of public officials, but thinks "it will never be tolerated that medical men are to become directors-in-chief in all sanitary matters, including building construction, and that architects and engineers are to act as their clerks of works."

THE IRISH BUILDER also requires to know "how many doctors know the constituents of good mortar, and what are the properties of sand and lime comprising it." From these quotations we derive the conception that our contemporary is jealous of the doctors. We hasten to reassure it. Irish medical officers of health have not the remotest

ambition to undertake a larger field of duty than they have—being almost unpaid for that—and they gladly leave the composition of bricks, mortar, and plaster—except sticking-plaster—to architects and engineers. In the absence of any circumstance which justifies the IRISH BUILDER's complaint, it seems to us an unmeaning grumble.

Our contemporary is unable, it says, to understand our meaning, and finally winds up by thinking that our complaint seemed "an unmeaning grumble." We are of opinion, on the other hand, that our remarks were plain enough, and that our article, as a whole, was full of meaning to all who were disposed to understand it. We dealt with the subject of "Unsanitary Architecture and Public Health," and directed attention to nefarious building practices. Medical men and medical officers of health have their shortcomings and ambitions as well as other professional men, and in Dublin of late there has been a marked tendency on the part of some medical men to dictate public opinion on sanitary matters. All men may dare to speak, but they have a right, at the same time, to hold themselves amenable to the public will. Sanitary engineering and architecture are matters that particularly concern architects and engineers, and when our contemporary discovers any member of these professions giving clinical lectures by the bedside of patients in public hospitals, it will have a right to object. We do not object to medical men inculcating sanitary science or preaching sanitary reform, but we do protest against the action of a certain section of medical practitioners interfering in matters that do not concern them,—of what they know, practically speaking, nothing, and endeavouring at the same time to ignore the labours of sanitary reformers of the architectural profession, who were working in the good cause before some of their present self-constituted dictators were born.

#### IRISH EXHIBITS, AND ARTISANS AT THE PARIS EXHIBITION.

AT a meeting of the Paris Exhibition Committee, held on Saturday, at the Mansion House, Mr. H. Parkinson, the Hon. Sec., stated that he had written to Mr. Cunliffe Owens, C.B., the Secretary to the British Commission for the Paris Exhibition, informing him that her Grace the Duchess of Marlborough was anxious to obtain space for the exhibition of some specimens of lace, embroidery, and other items of Irish manufacture. He had received a letter from Mr. Owens informing him that the necessary space would be allocated, and that a case which had been sent over by Mr. Strahan would be for the reception of the articles, which would include not only a private collection belonging to her Grace, but also additional specimens of work done in the convent schools of Larne, Monaghan, Clonakilty, and other schools.

Mr. Parkinson stated that he was about to send out a circular to the peers of Ireland, calling attention to the movement for the sending of Irish artisans to the Paris Exhibition, and inviting their co-operation in it.

Mr. Parkinson mentioned that he had received letters from Cook's Excursion Company and Gaze and Son in reference to the terms on which they would convey the artisans to Paris and maintain them there. The former would take them over and maintain them for a week at £5 per head. The terms of the latter would be about 8s. per day. No engagement had as yet been entered into with either of these parties. A very important trade, namely, that of the "house decorators" had been added to the list. He had written to Messrs. Cook, informing them of the fact that the Lord Mayor of Dublin would visit the exhibition, and requesting that attention should be paid to his lordship, and had received a reply stating that a courier would be placed at his lordship's disposal, on his way from London to Paris, free of charge. Amongst the subscriptions to the movement was £10 from

Sir Arthur Guinness. He (Mr. Parkinson) regretted that his professional engagements would prevent him from accompanying the Lord Mayor to Paris.

#### OBITUARY.

MR. JOHN SIBTHORPE.

IT is with regret that we chronicle the death of Mr. John Sibthorpe, the head of an old representative Dublin firm whose connection with the trade of this city dates back for a century. For some years back the old established firm has added greatly to the original business of the founder of the house. The firm is now well known throughout Great Britain and Ireland as extensive marble quarry-owners, stone and marble merchants, dealers in foreign and native building stones, supplying the home and foreign trade with columns, pulpits, fonts, altars, pavements, monuments, Irish crosses, chimneypieces, grates, and every article connected with marble masonry and house and church ornamentation. Mr. Sibthorpe died rather suddenly while proceeding to church on Sunday, the 21st ult. His funeral, which took place on Wednesday, at Mount Jerome Cemetery, was attended by a large concourse of the friends of the deceased, and of respectable traders and business men. Not the less marked feature of the funeral was the procession after the hearse of upwards of 400 of the artisan and other workmen in the employment of the firm. An impressive ceremonial took place at the grave. The coffin was of polished oak with a rich mounting. The inscription thereon consisted of the following:—"John Sibthorpe, born 27th December, 1799; died 21st of April, 1878." All we need add is, that a good employer and a respectable Dublin citizen has passed from our midst.

#### RE-OPENING OF AGHADE CHURCH.

THIS parish church, in the diocese of Leighlin, which has recently undergone some improvements, was re-opened on the 25th ult. The new additions consist of a chancel with an apsidal termination, and new windows in the nave. Three stained glass windows have been erected in the chancel—the work of a London firm—in memory of Sir R. P. Butler, Bart., Mr. E. Dillon, R.N., and Mr. Thomas Singleton. A brass lectern has been presented to the church by Mrs. Dawson, of Borrer. The works have been executed from the designs and under the superintendence of Mr. J. Rawson Carroll, architect, F.R.I.B.A.; the contractors being Messrs. Morrison, Brothers, of Bagnalstown.

#### ROYAL HIBERNIAN ACADEMY EXHIBITION.

THIS year's Exhibition of the Academy contains a pretty fair number of good paintings, the works of members from the worthy president downwards. It would be too tedious to enumerate them in detail without pointing out their respective merits.

In the fields of sculpture and architecture this year's Exhibition is, we regret to say, a very sorry one. There are but a few architectural drawings, and, with one or two exceptions, none call for any particular notice. Where are our architects? or where are their assistants? From the paucity of drawings in the Academy one would think that the whole of them were too busily engaged with clients to devote a few evenings during the winter in preparing some drawings fit for public exhibition. As for objects of sculpture or statuary in the Academy, the word "none" might almost be written. To all intents and purposes the words "sculpture and architecture" might as well have been left out of this year's catalogue.

On the other hand, we are glad to have to record that the evening exhibitions have been well attended, and that the working classes have appreciated the facilities given them for examining the works of art on view. We would, however, have liked to witness a still larger attendance of the artisan element in Dublin at the exhibition, and attending other places in the city—galleries and museums now thrown open for their instruction in a science and art direction.

#### ADVERSARIA HIBERNICA,

##### LITERARY AND TECHNICAL.

THERE are a great number of listless young men and women about Dublin, walking the flags, promenading round the squares, looking into the shop windows, or lounging in carriages or in cabs, or on cars. The great majority of these folks think they are busily engaged, and, indeed, you could not give them a greater insult than to tell them they have little or nothing to do. They could find plenty of useful things to do to serve their own family interests, or the interests of the community at large, if they were so inclined; but these young folks of both sexes do not want useful work—they only need some attraction of one kind or another to amuse them and drag them on through their laborious day's uselessness. The class of young persons we are speaking about are, to a great extent, the encumbered estates of their parents, if they are gentlemen (and of course all young men in these days are gentlemen); they smoke cigars, carry a walking stick, sport a heavy watch and chain, a squinting eye-glass, and are accompanied with a bull pup or terrier of some kind. It would be perhaps ungallant to say what signalises the airs and dresses, the habits and manners of the young ladies of this city. That they dearly love to go a-shopping, to see the last new fashion in bonnets and tights, is to utter no libel. They are not ashamed, God bless them, to ape the dress of the masculine gender from top to toe—tight boots, tight corsets, tight costumes, boas, muffs, parasols, and poodles. Don't ask us what the fair damsels do at home; ask their parents, and we are not certain that many of the parents will even volunteer the information on such a delicate subject, for appearances, you know, must be kept up; and if there be a houseful of daughters, all must know if these daughters are marriageable, they are certain, in the mother's opinion expressed outside doors, to be eligible young ladies for any young gentlemen. Most of them, no matter how limited may be their father's income, have learned to strum the piano, and do a little bit of crochet or Berlin-wool work; but—no, sir, they never learned to cook, and they never will, if they can help it, the pretty dears! How could you think, sir, that they would so demean themselves as to go into their parents' kitchen, to learn to roast a sirloin, make an Irish stew, an apple tart, a Yorkshire pudding, a custard, boil a potato—it is positively outrageous to think of it. Irish ladies, indeed to do those things! Faugh, did you ever know an eligible young Dublin lady that had not been contaminated with English influences or French low habits to soil her pretty hands with black pots and kettles?

Alas! and alas! in sober seriousness, our country is to be pitied; and need it be wondered why so many hundreds of young ladies suffer sore trials, indigence, and often positive want, from being ashamed to aid themselves, and learn while they can during their parents' lives how to do something that will prove useful to them in the battle of life when they are thrown entirely upon their own resources? To be a good governess is to be what is very useful; but Great Britain is overstocked with governesses—good, bad, and indifferent,—and, sad to relate, many thousands of them are earning but a sorry pittance, scarcely sufficient to keep body and soul together. Oh! would that we could see a great reaction setting in, and so-called

ladies and gentlemen no longer ashamed to do honest work, for the glory of God, the credit of mankind, and their own personal benefit! Honest and useful labour never yet demeaned or demoralised a single soul; and those that aid themselves, heaven will aid them. It is deplorable to see how little some young ladies and gentlemen can do for themselves in their own homes. A servant is needed for this and that and the other thing—ladies' maids, nurse maids, chamber maids, &c.,—and even in small households two or more servants with a houseful of daughters, who think it beneath them to do ought to help themselves or relieve the pressure of worldly exigencies upon the one bread-winner in their home.

Pendant to the above, the subject of the education of ladies—of an education more suitable to the wants of our time—is of late attracting considerable attention at home and abroad. A mere scholastic education on the old system, if not exploded, must soon be, and a really useful and essential industrial education supplied in its place. *En passant*, we would point to the teaching adopted in the Queen's Institute of Dublin, where sundry industrial arts may be acquired by young ladies who are not above making themselves generally useful to their kind, capable of earning a livelihood if thrown upon their own resources, and, whether single or married, art-workwomen as well as gentlewomen. The branches of industry, art or handicraft, open to women are still limited; but they can be greatly extended without trenching upon the domain of men; and in married life, as in single, what can be more honourable than ladies being real help-mates as well as mere help-eats? We have now in England and America lady composers, wood carvers, and artists of various kinds. We do not desire to see lady lawyers or doctors, though in one branch of the medical profession ladies so inclined may find useful scope for their humane services. We desire to see more sensible ladies, and not merely strong-minded women, ambitious of notoriety, and in open or assumed rebellion against nature and human nature. Sensible men with good hearts—and all sensible men ought to be good hearted—will not undervalue a lady who adds to her other accomplishments a thorough acquaintance with household duties; and, lacking this knowledge, the art of letter-writing and pianoforte playing is but a poor compensation. On the other hand, no man should expect his wife or daughter to wholly support him, unless, indeed, he was stricken down with illness, and the talents of his wife were equal to the pressing occasion. Father and mother in high, and low, and middle-class life, if we would particularly address a word or words to you, we would say—make your daughters, as well as your sons, generally useful, not in the lowest sense of drudgery, but in the higher one of independent industry and living, and you will die with the consciousness that you have done your duty by your children; and when you are gone, if your children are not left well provided for, they will be able to provide for themselves, through the teaching and training they received.

Writing of the prevailing system of school education, respecting young ladies as well as gentlemen, Samuel Whyte (the schoolmaster of Thomas Moore), observed in 1772:—"Men are mistaken who imagine women are to be entertained only with trifles, and they justly hold him in secret contempt who pays them so ill a compliment. In the name of all that is good and sensible let us throw off this tyranny of custom, and give the minds of our females a more liberal and proper bent. Along with the common qualifications of the pen and the needle, they might with ease and pleasure to themselves be led through a regular course of the *belles lettres*, such as geography, chronology, history, &c., particularly they ought to be perfected in that rare and useful accomplishment, the knowledge of their native language; to feel it in all its

force, and comprehend it in all its beauties; to write it with correctness, purity, and elegance, and to read and speak it with all the consummate delicacy, propriety, and grace of which they are professedly capable. Their minds thus enlarged and qualified for receiving and communicating the highest and most refined pleasures of rational and social intercourse, what a noble, what an intrinsically valuable addition would it make to the catalogue of their other perfections."

Remembering that the above words were written upwards of a century ago in Dublin, it must be allowed that Samuel Whyte was in advance of his time, although he scarcely touched upon the subject of industrial education for women. In a footnote to the last sentence of the above extract Whyte adds:—"Whoever casts his eyes over the list of young ladies prefixed to this work, may find abundant testimony of this truth; there may be contemplate consummate beauty, without affectation, good sense without vanity, and without ostentation, improved understanding. Perhaps a more charming constellation of female perfection nowhere exists. But still more to the honour of the young ladies of Dublin, beauty here is not the cause of rivalry; their minds are above the meanness of envy; a sisterly affection mutually inspires them; and they are even happy in each other's praises." We would it were so to-day, but *O tempora, O mores!* In the list of subscribers' names to Whyte's volume, which includes the Essay on Education, some hundreds of names appear, and among them scores of his own lady and gentlemen pupils, belonging to the highest ranks of the nobility and gentry of Ireland. Never perhaps in Ireland, or in its capital, was a more deservedly popular principal of a classical academy than Samuel Whyte, of Grafton-street, Dublin.

The following account of money expended in building the Royal Hospital of Kilmainham, Dublin (in the reign of Charles II.), from March 2nd, 1680, to December 25th, 1686, will perhaps possess an interest for architects, builders, and building workmen at the present hour. The sums include the amounts paid to workmen and others for work and materials for the building of the hospital. We do not find the architect mentioned by name in this list, although it is stated by different authorities that Sir Christopher Wren was the architect of the building, and that the carving on the altar screen was the work of Grindling Gibbons:—

|  |             |
|--|-------------|
| To labourers, for digging foundations, cellars, &c. . . . .  | £509 12 5½  |
| To day labourers . . . . .                                   | 557 17 10½  |
| To masons and bricklayers . . . . .                          | 5,423 7 4½  |
| To stone cutters . . . . .                                   | 1,248 11 7½ |
| To carpenters . . . . .                                      | 1,639 2 4½  |
| To sawyers . . . . .   | 377 17 11½  |
| To joiners and carvers . . . . .                             | 809 12 1    |
| To plasterers and painters . . . . .                         | 1,926 1 11½ |
| To smiths and ironmongers . . . . .                          | 822 19 3½   |
| To plumbers . . . . .  | 1,031 4 10½ |
| To slaters . . . . .   | 801 18 9    |
| To glaziers . . . . .  | 319 12 ½    |
| To turners . . . . .   | 5 18 ½      |
| To tile makers for tiles . . . . .                           | 156 18 7½   |
| For timber, deals, and laths . . . . .                       | 5,263 8 5½  |
| For Portland stone and other hewn stones . . . . .           | 1,150 13 0½ |
| For carriage and freight of timber, stone, lead, &c. . . . . | 871 12 1    |
| For tools, instruments, and other contingencies . . . . .    | 129 16 3    |
| To overseers and other officers for their salaries . . . . . | 810 0 0     |
| For an engine to raise water for the wash-house . . . . .    | 37 18 9     |

Total expended in building the hospital, infirmary, gardens, churchyard walls, &c. . . . . £23,559 16 11½

About the period when the Royal Hospital was opened, now nearly two centuries since, a pensioner's coat cost £1 4s. 6d., a coarse shirt 3s. 2d., and a pair of stockings 12d. In 1689, a large coat and breeches (knee), £1 11s.; a waistcoat, 4s. 4d.; a pair of shoes, 4s.; a hat, edged and laced, 4s. In 1700, we read in the work of the late Rev. Nathaniel Burton, who wrote a history of the hospital, that proposals were sent into the Hospital Board, in which a large red coat, with blue lining, having a crown embroidered on the back, with a pair of blue cloth breeches, at a cost of £1 11s. The Royal Hospital

witnessed many curious scenes, and has been the subject of much discussion. On different occasions attempts were made to abolish the hospital altogether as a home for Irish soldiers in their old age, and using Chelsea, London, indiscriminately for Irish, English, and Scotch pensioners. These attempts raised great storms of indignation, and were severally defeated by strong expressions of national opinion.

About forty years ago or upwards an effort was made to abolish the Royal Hospital, which gave rise, among other literary and political warfare, to a poem called "The Pensioner's Lament," which was printed in the office of John S. Folds, Bachelor's-walk. The poem contains fifteen verses, the first of which opens thus:—

"And must we go, and has the order come  
To turn us forth in poverty and age,  
To beat for quarters without beat of drum,  
Wherein to end life's weary pilgrimage."

In the second last verse the old pensioner is made to say:—

"I'll not cost much—my lamp is nigh burnt out—  
With wounds and pains my time has almost come.  
A Five Pound Note, perchance, or thereabout,  
Will close my ledger—then the muffled drum."

Since 1840, another strenuous attempt on the Royal Hospital was defeated, as well as the abolition of the viceroyalty; but as these questions partook more or less of politics we will draw the line at this point, and conclude our mems. at present *re* the Royal Hospital of Kilmainham. H.

### SERIOUS EXPLOSION IN A FOUNDRY.

A most disastrous and lamentable boiler explosion occurred on Saturday last at Messrs. Strong's foundry and iron works, Hammond-lane, off Church-street, by which upwards of a dozen persons lost their lives, and a large number were seriously injured. The foundry buildings and some of the adjoining houses were completely wrecked. Walls, roofs, doors, windows shattered and scattered in all directions, including a large boiler which was hurled high into the air, rent into pieces. The picture we witnessed, on a visit to the scene of the accident, was a most sad and suggestive one. We are almost tempted to give expression to our conviction in respect to the ruin we witnessed and the possible cause of it; but, as we do not desire to say aught likely to prejudice the pending inquiry, we will await the result of the inquest. We trust, at the same time, that there will be a thoroughly exhaustive investigation, and that it will be conducted by enlisting the assistance of competent men.

### CORRESPONDENCE.

#### GAS WITHOUT GAS WORKS OR GAS METERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—During the past few years there has frequently appeared in the columns of the IRISH BUILDER reports of disputes between the commissioners of many of our provincial towns and the local gas companies about the excessive cost of the gas used in the public lighting of the streets of such towns. In many instances these disputes were only terminated after much inconvenience. The streets of Carlow and Naas were left for more than a year without public lights. Drogheda had to make shift with paraffin lamps; in other places the antiquated "dip" was utilised in the illumination of the thoroughfares, while the commissioners of many towns, in order to avoid the threatened darkness, paid unwillingly for the public lighting of the locality in their charge—about one penny per hour per lamp. It is but fair to state that greed of gain on the part of gas manufacturers, or the industry of infallible gas meters, indicating the transit of a fabulous bulk of gas, was not the cause of all such disputes. Local difficulties prevented them, as they still continue to do, the manufacture of gas at a reasonable price in nearly all the provincial towns of Ireland.

It is pleasing to know that the ratepayers in those towns can now be relieved from those excessive charges for public lighting—from the annoyance given by such charges, and the inferior light

emitted from the imperfectly-purified gas supplied to their public lamps.

Messrs. Whittle and Son, Whitehaven, exhibited at the recent Royal Dublin Society's Show their patent "Gas Oil Lamp," which is well adapted to meet the requirements of localities where gas cannot be manufactured at a reasonable price. Oil sufficient for 40 hours' use is contained in an air-tight cistern surrounding the breast of the lamp, and descends by a pipe to the interior of it. The oil is admitted in the same way as gas to an ingeniously-constructed burner, where it is volatilised, and burns steadily, emitting a light equal to about 25 standard candles, at a cost of one farthing per hour. It can be regulated to give a lesser light, and, after being lighted, requires no further attention; further, they can be fitted to existing lamp pillars. These lamps are at present used in lighting many towns, villages, mines, railways, and private establishments in England. Since September they have been used in the illumination of the steamboat pier and streets of Monkstown, County Cork, and have given there such satisfaction that it may be reasonably supposed the commissioners of other towns in Ireland, at present paying 300 per cent. more for artificial light, will also adopt this economical method of illuminating their townships.—Yours respectfully, JAMES KIRBY.

27th April, 1878.

### THE NEW CHURCH OF ST. PAUL OF THE CROSS, MOUNT ARGUS, CO. DUBLIN.

We are partly indebted to a morning contemporary for the following details. The plan of the new church consists of nave and sanctuary, terminating in an apse; side aisles, terminating in chapels; two western chapels; open porch, with stone groined ceiling and flanking campanili. The apse of sanctuary is merely temporary, as provision is made in the construction of the nave to allow of its future extension by two bays in length. A transeptal building on the north side connects the new church with the adjoining monastery, containing on the ground floor a large and commodious sacristy, and over it the choir of the community. The style of architecture is Romanesque. The general dimensions are—total length in clear, 145 ft.; total width, 71 ft.; height from floor to ceiling, 52 ft.; the nave is 41 ft. wide. The composition of the principal front consists of the entrance to the church by an open western porch formed of three arches, supported on monolith shafts of polished Aberdeen granite, with moulded bases and richly-carved capitals of Portland stone. Over the porch is a gallery, or series of niches, supported on pillars of polished Dalkey granite, and filled with statues of our Lord, St. Peter, St. Paul, St. John the Evangelist, St. Luke, St. Patrick, St. Laurence O'Toole, St. Agnes, and St. Bridget. On a band of Portland stone beneath the gallery is the carved inscription, "D.O.M., Sub Invocatione Santi Pauli a Cruce." Over the gallery is a large rose window formed of tracery of Portland stone and radiating shafts of rubbed slate. At the side of this window are life-size figures of the Blessed Virgin holding the Divine Child and St. Joseph, within appropriate niches. The tympanum of the western gable of the nave is treated in a manner quite unusual in our ecclesiastical architecture, and is highly successful. It contains a group of large-size figures representing the founder of the congregation of Passionists, St. Paul of the Cross, preaching a mission to a numerous auditory of various classes and conditions of life. The tympanum is protected by a boldly-moulded and carved cornice supported on carved corbels. The gable is crowned by a colossal statue of St. Michael the Archangel, clad in armour, completely gilt. At either side of the principal front the campanili rise to the height of 110 ft. each, terminating in bell-stages of open arches with moulded cornice, and covered by pyramidal roofs surmounted by gilt floriated crosses. The church is entered from the open porch by three doors, above which are semicircular lunettes containing groups in high relief, representing scenes in the life of

St. Paul of the Cross—that on the left hand being St. Paul, when an infant, rescued by the Blessed Virgin from being drowned; in the centre the Blessed Virgin showing the habit and badge of the Congregation of Passionists to St. Paul; and, at the right, Pope Benedict XIV. approving of the rule of the Congregation. The nave opens into the aisles at either side by broad semicircular moulded arches, supported on monolith shafts of Aberdeen polished granite, with moulded bases and carved capitals. In the spandrels between the foregoing arches are painted on circular discs the heads of the twelve Apostles. On the wall spaces between the arches and the clerestory are paintings representing the principal mysteries of the life of our Blessed Lady. Over the triumphal arch separating the nave from the sanctuary is a painting representing our Lord, his right hand being raised in benediction, his left holding a globe. At the sides are figures of the four Evangelists. The clerestory windows of the nave are formed of triplet lights, the interior arches being supported on polished shafts of coloured marbles, and the open spaces filled with tinted glass of harmonising colours. The ceiling of the nave is what is technically called "coved"—that is, the sides form segments of circles, and the space between is flat. The entire is divided into panels by massive timbers, and is richly decorated in colours and gold. The ground-work is delicate blue. In the coved panels are painted heads of saints and prophets; and in the flat panels are painted monograms of the Holy Name, and of the names of the Blessed Virgin and other saints. In the apse of the sanctuary stands, under an elaborate baldachino, the high altar, a beautiful work of Italian art, composed of various coloured marbles, including malachite, verde antico, rosso antico, and Mexican onyx, &c. It is the gift of a lady and gentleman of this city. The Passionist Fathers owe to the generosity of individuals and private friends (some of whom had previously contributed to the building) every object of decoration and furniture which the church contains. Marble slabs inserted in the handsome front of the organ gallery will commemorate the names of these generous benefactors. Turning into the south aisle we find at its east end the Chapel of St. Joseph, erected, with the marble altar, at the expense of the late Francis O'Farrell, Esq. At the west end of the same aisle is situated the Chapel of the Pieta, erected, with its altar, furniture, stained glass, and other decorations, at the sole expense of the late Patrick Boland, Esq. The west window of this chapel contains, in stained glass, a beautiful figure of St. Elizabeth of Hungary. Stained glass also fills all the windows of south and north aisles, and these are memorials of deceased or living benefactors of the church. Those in the south aisle, beginning at the east end, contain figures of our Lord, showing his Sacred Heart; St. John the Baptist (erected by Mrs. Pigot, in memory of the late John Edward Pigot), St. Patrick, St. Bernard, St. Ignatius, St. Dominic, St. Thomas Aquinas, St. Francis Assisi, St. Aloysius, and St. Teresa. The Chapel of the Sacred Heart, with its marble altar, is at the east end of the north aisle; and at the west end is the chapel of St. Mary Magdalen. The stained glass windows of the north aisle contain figures of our Lord, St. John the Evangelist, St. Anne, St. Alphonsus. The west window of the Chapel of St. Mary Magdalen contains figures of St. Laurence, and St. Sebastian. The church, as well as the monastery adjoining it, was designed by Mr. J. J. McCarthy. The entire of the sculpturo and painted ceiling and wall decorations are by Messrs. Earley and Powells, of Upper Camden-street. The organ was originally built by Merklin and Schutze, of Belgium, and is at present being remodelled and enlarged by Mr. Thomas White, of Lower Baggot-street. The tiling of the floor, which is of a very beautiful pattern, was supplied by Messrs. Monsell, Mitchell, and Co.



The Magee College, Londonberry.

THE LIBRARY  
OF THE  
UNIVERSITY OF ILLINOIS

## NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

## TWENTY-FIRST PART.

WE have in our former papers included in one shape or another nearly all the publishers and printers of note, and the periodical literature of Ireland issued from time to time, bringing down our subject to the close of the half-century. There are, of course, several literary efforts of the magazine and newspaper class which did not call for particular notice, and a few more, from the hurried nature of our review, have been omitted, though well deserving of a few words. Among the latter class may be mentioned the *Citizen* and the *Irish Monthly Magazine* of 1840-2, well-written and well-printed and conducted Dublin periodicals, containing many able articles and papers by native writers of ability. In the pages of the *Citizen* several excellent papers on Irish biography, music, and subjects of national interest appeared; and this native periodical is well entitled to a place in every cultured Irish gentleman's library. Between 1840 and 1845, S. J. Machen, of 8 D'Olier-street, and afterwards of 28 Westmoreland-street, was a Dublin publisher of some note, and for a few years continued to publish several excellent school books, books in general, and good editions of the Classics. Machen's publishing and bookselling business looked prosperous for a while, but evil days fell upon the publisher, and ultimately he left Dublin for Liverpool, where he started in a totally different line, not having the least connection with his former profession. From Machen's house, if we remember aright, was issued a work in parts, "The Life, Times, and Contemporaries of O'Connell," by John Græme. The author, if we are not mistaken, commenced life as a working carpenter, and was known as the contributor of several essays to the periodical literature of his day. Græme, we have heard, was for some time a partner in a Dublin building firm, but as the pursuits of literature did not square well with the instincts of his partner the fellowship was dissolved, and the last we heard of the literary craftsman and builder was that he had passed over to London, where he for years continued to devote his time to his favourite literary pursuits, and earn his bread by the sweat of his brain, as he formerly did by the sweat of his brow and hands.

A monthly periodical started in 1843 and lasting till 1845, called the *Dublin Literary Journal and Select Family Visitor*, is, perhaps, entitled to a passing notice. This journal was published by its proprietor and editor, Joshua Abell, in Enstace-street. Abell was a member of the Society of Friends, and the magazine was more or less conducted in the interest of that body. It proposed, at its starting, to devote its pages to essays on agriculture, humanity, slavery, peace, notices of biblical literature, Irish antiquities, and, indeed, to act essentially as a review of new books and publications. Some good papers appeared in the journal, and several interesting reviews of native and general works. Joshua Abell, the proprietor, was a contributor of prose and poetry to its columns. It contained, from time to time, a few illustrations; but these woodcuts were used previously in other native Irish and English magazines. Abell appears to have been a many-sided individual. He conducted a day-school—English, classical, and scientific education—in Enstace-street; and, in one of his announcements, speaks of it as being established for twenty-five years previously. He was appointed by the Lord Lieutenant to be a practitioner of medical electricity and galvanism to his Excellency. Again, in one of his advertisements, he informs the public that, "at the suggestion of his scientific friends, he has converted his well known, extensive, and valuable cabinet of minerals and fossils into a public depository, where publishers will meet with several regular series of beautiful specimens and Irish geological collections, scientifically ar-

anged, and at a very moderate price." He announced also in connection, private conversational lectures on mineralogy, illustrated by the specimens of the above-mentioned cabinet. Abell was a persevering man, but his literary journal cannot be said to have been a success. The *Dublin Literary Journal* contained advertisements, and the first three numbers bear the Government stamp. The Stamp Office objected to Mr. Abell issuing unstamped copies for the city, but without the privilege of going through the post-office, as was permitted to London publications. This led to a correspondence with the authorities and a delay in the publication of the journal. In the next number it, however, appears by a notice to his subscribers that the proprietor succeeded in overcoming the prejudice of the stamp authorities; for it is announced that they had agreed to the editor's proposition of allowing him to print unstamped copies for distribution in the city, but not for supplying subscribers through the medium of the post-office. Abell availed himself, of course, of the privilege; but we may suppose his stamped circulation afterwards was very limited. It is amusing to look back for thirty or forty years and witness the petty exactions and conditions insisted on by the Government authorities. One by one they have nearly all disappeared by force of public opinion, but not without hard fighting and some severe suffering on the part of the upholders of a free Press. The good fight has been bravely fought and won by humble and not wealthy men.

A few words here about the stamped and unstamped Press may not be out of place, as we have in our review dealt with newspapers and magazines irrespective of their principles, whether in politics or religion. In England, from the days of Cave of the *Gentleman's Magazine* down to the time of Fergus O'Connor of the *Northern Star*, the organ of the English Chartist movement, there were continual prosecutions against the Press. Among the most noted of those who suffered for seditious libel and contempt of Parliament, by publishing the proceedings of the House of Commons, may be enumerated—Wilkes, Woodfall, Cobbett, Leigh Hunt, Roche, Perry, Finerty (who suffered previously in Ireland), Clement, Theodore Hook, Cooper, Weaver, Shackell, Arrowsmith, of the *John Bull* and *Chronicle* newspapers, and a host of others too numerous to mention. Between 1830 and 1835, there were several prosecutions against the editors and proprietors of an unstamped Press. To the pioneers of the unstamped Press, although some of them were violent, we owe much of that unrestricted liberty which the Press of to-day enjoys. Among these were Hetherington, of the *Poor Man's Guardian*; Lorimer and Carpenter, of the *Republican*; and Cleave and his wife, of the *Gazette*; and all of these last were humble men. John Cleave, in London, was the last, or one of the last, martyrs of a public prosecution for publishing an unstamped newspaper, to the tune of £500, in 1836. After this the Government of the day was shamed into reducing the stamp duty to one penny. It took, however, nearly twenty years more before the authorities were driven to bay, and another impediment which the Press had to contend against, the advertisement duty was abolished in 1855. The compulsory Government stamp has since gone, and a halfpenny affixed stamp sends the registered newspaper organ far and wide. When a certain weight is paid for, and is covered by a halfpenny stamp, we hold that a fortnightly and a monthly publication should be allowed the same privileges as a daily or weekly newspaper or periodical. A fortnightly or monthly professional publication devoted to science, art, and industrial pursuits, advocating sanitary and social wants and public improvements, and not appealing to the interests of novel readers, is a class of publication that should be allowed the same privileges as ordinary journals, whether it be published within the period of seven days or not. Professional periodicals are disseminators of useful and often invaluable

knowledge, and the articles they contain have generally more sterling merit than those written for the daily press. The articles in most of our daily papers are read to-day and forgotten to-morrow, but professional journals and a number of our monthlies are bound by their purchasers, and put in their libraries for reference. All unnecessary restrictions, therefore, to the spread of knowledge should be removed by the Government, and the best public instructors and educators we have are the professional journals.

Among once popular newspapers in advocacy of the national party in Ireland were the *Weekly Register* and the *Pilot*. The former was started as far back as 1818, and lasted till the commencement of the second half of the century. Michael Staunton, its editor and proprietor, was not an extreme politician, yet withal he was a vigorous writer, and took sides with the popular questions of the day. He was, in sooth, a politician of the Repeal school, and for many years enjoyed the friendship of O'Connell, his family, and political and literary friends. Staunton was believed to be an adept at statistics, and, to do him justice, he evidenced considerable ability in that field. He was the author of several political pamphlets published in Dublin during the administration of different viceroys, in which there was some hard hitting. These pamphlets, if we remember aright, had all alliterative titles, but we have been for several years unable to lay our hands upon them again to refresh our memory as to their contents. Staunton was also the author of one of the Repeal Prize Essays published under the auspices of the Repeal Association. After the collapse of that body and the cessation of the *Weekly Register*, Staunton for several years held the appointment of Collector-General of Taxes in Dublin, in which office he died in 1850, and was interred in Glasnevin Cemetery. A short notice of the life and political associations of Michael Staunton appeared among a series of brief "Sketches of Irish Journals and Journalists" by a Dublin gentleman, published in the *Glasgow Sentinel* about 1865, and re-produced in the *Morning Journal* in the same city under the same proprietary. The writer was assured by Staunton, who was living at the time, that the notice of him was a fair and, on the whole, an accurate one. The editor and proprietor of the *Weekly Register* throughout the Young Ireland movement, particularly during its revolutionary period, displayed no love for the Young Ireland leaders, and did not hesitate to express his opinion on their tactics. His sympathies were with O'Connell till the last.

The *Pilot* newspaper, established several years later than the *Register*, and which predeceased the latter a short time, was for a few years before its decease published in the same office in Elephant-lane, corner of Marlborough-street. Its proprietor and editor, Richard Barrett, was originally engaged in the brewing trade before he commenced the rôle of a journalist. The *Pilot* was for several years a thorough Repeal organ, and through its columns O'Connell published many of his letters and manifestoes. Between O'Connell and Barrett there existed a fast friendship, and indeed the same may be said as regards Staunton and Barrett, who more or less associated for years. "Dicky Barrett" was a familiar name in the mouths of the friends of the Repeal movement, and "Dicky" dealt many a severe blow to the enemies, supposed and real, of O'Connell in the Young Ireland ranks. He heaped ridicule on the heads of the party, and they betimes paid the veteran journalist of the Repeal school back with compound interest. He stigmatised them as traitors to the cause, and flung a pamphlet at them with this motto, as a parting shot—

"Men faithless once are always faithless men"  
Gave them but scope, and soon they'll turn again."

The fire ceased at last on both sides, and the conductor of the old *Nation* soon migrated to the Antipodes, and the pilot of the *Pilot* buffeted the stormy waves of Irish journalism no more.

In Elephant-lane (now Tyrone-place), not far from the office of the *Pilot* newspaper, was started about 1846-7 a very advanced revolutionary periodical called "*Peter Carroll's Register*." Peter Carroll, so called, some time previous to this broke ground in the columns of the *Nation* newspaper, in a number of letters signed "Peter Carroll, Stone Mason." Many thought that this modern Peter who denied himself was really an operative mason, and that a new William Cobbett had arisen to lash the political and other vices of the day. Peter, however, had a better card to play, and, as it turned out afterwards, he played it well. Peter Carroll's *Register* did not run for many weeks, but, while it lasted, it administered strong doses to the Irish Executive of the day, and gained the applause of several of the National and Old Ireland party. Apart from its politics, Carroll's *Register* was well written, and occasional illustrations graced its pages—portraits of popular men, with notices. The publication in a short time suddenly ceased, for Peter was provided for elsewhere by a promise, followed by a colonial appointment. Some hinted that he was bought up, others that he was silenced, while more, again, roundly asserted that the starting of Carroll's *Register* was a Government dodge, and that it served the purpose intended. We will let the reader draw his own conclusions,—suffice it to say that the *soi-disant* Peter was no other than John Donnellan Balfe, who figured not long afterwards as Governor of Tasmania or Van Dieman's Land, and termed the "gaoler-in-chief" of Smith O'Brien and his political companions while state prisoners in Australia. It would not become us here to enter further into the sins advanced against Balfe in his capacity of governor, or to treat of his life further. His name has been introduced into these notes on account of his literary belongings.

In noticing the *Weekly Register* of Staunton, we might have mentioned that for some time previous to 1840-1, a *Morning Register* was published, contributed to by some of the editors and writers, who afterwards figured in the *Monitor* and the *Nation*. A short time previous to this a paper was printed and published by Thomas Carrick, on Bachelor's-walk, called the *Morning Post*. The *Morning Post* of Carrick was a popular organ for a while, but it had not a very long or successful career. The printing establishment of Thomas Carrick, and afterwards of his son, was an old and respectable house, and continued to exist until a few years ago. Carrick had a good connection at one period, executed a large amount of general printing, and the house had the reputation of turning out good work.

As we incidentally alluded to the name of the late Bryan Geraghty in connection with that of James Duffy, a few words about the old bookseller will be in place. Bryan Geraghty was established for many years as a bookseller at 11 Anglesea-street, and published some valuable Irish works. A few years before his death he issued, in 12mo, "*A Grammar of the Irish Language*." By Owen Connellan, Irish Historiographer to their late Majesties." This was about the year 1844. This grammar of Connellan was intended to supply the place of Nelson and Halliday's, then out of print. It contained extracts from the *Annals of the Four Masters* rendered into English. In 1846, Bryan Geraghty issued an expensive edition in parts of the "*Annals of Ireland from the original Irish of the Four Masters*." By Professor Connellan, with Annotations by Philip McDermott and the translator." This volume was 4to, and it contained a rare topographical and historical map of Ancient Ireland, showing the district held by each clan; the volume had also an illuminated title. It was stated at the period of poor Geraghty's death in 1849 that the expenses of bringing out this costly edition of the *Four Masters* crippled the publisher's resources, and paved the way to his subsequent difficulties and broken health. We were informed some years ago, despite of the diffi-

culties and the not very great support the publisher received, he was proud of his undertaking, and was glad to have been the instrument of placing in the hands of his patriotic countrymen a volume, in which he considered they ought to take a pleasure in reading and possessing. In 1848 was printed a catalogue of Bryan Geraghty's valuable collection of Irish manuscripts, which were sold that year by the well-known Sharpe, book auctioneer, in Anglesea-street. Owen Connellan, above alluded to, was the author of other educational works in the Irish tongue. Besides his "*Practical Grammar*" he published previously, in 1834, in 12mo, his "*Dissertation on Irish Grammar*;" in 1830, the "*Gospel of St. John (Irish and English) on the Hamiltonian System*;" and, in 1825, the "*King's Letters in Irish, with Reading Lessons*," &c. In 1860, the "*Bardic Institution, or the Proceedings of the Great Bardic Institution of Ireland*," edited by Dr. Connellan, was issued. The materials of the volume are from a manuscript of the fourteenth century, at present, we believe, in the library of the Royal Irish Academy. The Irish and English are given in the publication, which is in 8vo.

Although several magazines and newspapers, in the last and present century, have devoted a column to chronicle the affairs of the Stage, under the heading of the "*Theatrical Register*" or similar titles, we do not remember in Dublin any successful weekly or monthly publication devoted to the Drama. In London, from time to time, for several years, weekly theatrical organs have been started and carried on with more or less success. The starting even now in London, with all its theatres and places of public amusement, of a daily paper devoted specially to the Stage, would be considered a hazardous undertaking. In 1821, however, in Dublin, a small daily paper called the *Stage* was started by Tyrrell, a bookseller and publisher previously noticed. This paper contained criticisms on the performance each night at the then newly-erected Theatre Royal, Dublin. The paper ran for several weeks before it ceased, and copies of the publication are now very scarce. If we would venture on a word here upon the Drama, it would be to unhesitatingly say that theatrical criticism in Dublin has, for many years, been at the very lowest ebb, and it is of the most dishonest kind, with an occasional exception. Whether a weekly theatrical paper would at present succeed in Dublin, if started, we have our doubts; but the advent of a journal making dramatic criticism one of its specialities—an educated and honest criticism—is one of the wants of our time.

## LECTURES ON ARCHITECTURE.\*

(Continued from page 132.)

I PROPOSE now to resume the consideration of fifteenth-century architecture in England, together with the developments of later periods. In so doing, I do not consider it necessary to repeat the general observations of last year, but shall rather bring before you, as well as I can, some illustrations of the principles of design which I then described. We shall find in our studies of domestic architecture, a steady, though gradual, transition from the castle, as described in my last lecture, to the peaceful manor-house of the English squire. Features originally devised for defence, were clung to, as it were, with the affection which springs from use and tradition, and such details thus survived, as architectural ornaments, long after the reasons for their existence had passed away. It is ever so with architecture, an art which is, or should be, conservative in its very nature; and it is a forgetfulness of this essential principle of its existence which leads some impatient observers to be ever asking for new methods and new styles, in

disregard of precedents and of the lessons of antiquity.

I have referred, on former occasions, to the general use of timber for dwelling-houses, particularly in towns; but we are now entering upon the consideration of a system of more solid construction. The castles, on being transformed into palaces, lost but little of their grandeur, while they gained in architectural beauty of detail. They continued to be, as of old, the central places of abode of the great lords of the soil. They could accommodate, and to some extent protect, large bodies of retainers; but the necessities of warfare were gradually passing away before the advance of civilisation and of settled order. The great English mansions thus came to assume that air of mingled dignity and homeliness which has ever been considered their most pleasing characteristic. The walls still enclosed large spaces, and could be defended in case of need. The draw-bridge was often maintained. Bastions, battlements, and machicolations were preserved, if not constructed; but the character of the buildings enclosed was greatly altered. The house and the castle are seen combined, not indeed without a certain antagonism, of which the ultimate results could already be foreseen.

At Kenilworth, the large square tower or keep declares its early origin. I have already referred, in my last lecture, to the original prevalence of this form, and to its gradual abandonment in favour of curves and circles. Warwick Castle, built at the end of the fourteenth and the commencement of the fifteenth century, illustrates this change, for we have here a more irregular form, made up of angles and curves. The gateways, walls, turrets, and other defences, are still found, but the dwelling of the owner has a prominence altogether new and significant. It is no longer surrounded by the walls, but actually interrupts their continuity. It now refuses to be cooped up in dull courtyards, but is built against the river and looks over the country. The various offices and departments, which were in earlier times scattered throughout the whole of the enclosure, are brought together and aggregated in one mass, with every regard for dignity and convenience, as then understood. From such an arrangement, it was but a step to the altogether unfortified mansion. The walls were comparatively useless, since the introduction of gunpowder, and soon became mere enclosures to keep off robbers and pilferers; thus losing altogether their character of an integral part of the building. At the same time, the latter gained by the increased space, and spread itself out, not only in greater masses, but by including in its own construction spacious courts and quadrangles. As these changes were the results of peace and prosperity, they varied naturally according to the condition of different parts of the country. Thus, in the north, and towards the Scottish border, on the sea coast, and also on the side of Wales, we may find a system of fortification lingering, after it had become merged in more domestic construction, in other and more settled districts. At Alnwick, for example, although the original structure received many additions, by successive owners, the military and defensive character of the whole building was consistently preserved. Not only were the moat and external defences jealously maintained, but within the walls were to be found wells, ovens, slaughter-houses, and all requisite appliances for resisting a siege.

The Peles, or tower-like houses, have been before referred to, as existing in the border counties. They possess considerable strength, and resemble portions of the larger castles, forming a connecting link between the latter and the unfortified dwelling-houses, which in the fifteenth and succeeding centuries became common in England. Few large houses were built before the latter date without some attempt at fortification, and such defensive works were indeed almost compulsory.

Royal licences were issued, which were, in

\* By Professor E. M. Barry. Third Lecture. Delivered at the Royal Academy, London.

fact, commands, in virtue of which the builders of important structures were bound to build walls of defence, and "embattle, kernel, and machicolate" the same. These documents were called "Licences to Crenellate;" and Mr. Parker has published one of them, the date of which is believed to be A.D. 1483. It is a licence from "Edward by the grace of God, King of England and France and Lord of Ireland," to Edmund Bedingfield, esquire, of Oxburgh, in the county of Norfolk. It is declared to be given in consideration of the latter's good and gracious services, aforesaid rendered to the king, from day to day, and "which he still continues inclined to render." He is, therefore, to be permitted "to build, make, and construct with stone, lime, and sand, towers and walls, in and about his manour of Oxburgh," so that such manor may be enclosed, and "the walls and towers so embattled, kernelled, and machicolated, built and constructed, to hold for himself and his heirs for ever." A further clause declares the royal pardon for all transgressions previously committed by Mr. Bedingfield, in consideration of his building the fortifications above described, and further grants to him certain privileges as to holding markets and taking tolls therefrom. The deed is dated from Westminster, in the twenty-second year of the reign of King Edward IV. We may, I think, conclude from this document that to "crenellate" or fortify, in some measure, a private dwelling-house, was at once a privilege and an obligation. It was a social distinction, making out the house and its owner as possessing importance, and it was also apparently a matter of public policy, inasmuch as the Crown was ready to grant advantages in order to secure its accomplishment. The offer of such inducements, however, indicates that the necessity for defences was passing away, and that they had become a matter of fashion and rarity. Henceforward the disuse of fortifications was general.

Haddon Hall, in Derbyshire, so well known to most of us, well illustrates the state of transition. At a distance, it presents a castellated appearance; but on closer inspection very little real fortification can be seen. The gateway, with its tower, is part of the fifteenth century buildings, and displays that compromise between details of defence and ornament, which was characteristic of the period. The buildings are no longer huddled together within enclosing walls and turrets, but there are two open courts, with the hall in a central position between them. The chapel is of great antiquity, not later in parts than the twelfth century, as there are evident remains of Norman work. The building is irregular, and appears to have had an existence, independent of the castle. It is rather a nucleus, around which the latter has been built, than a private chapel belonging to the place. It may have been originally a parish church, existing from earlier times, before the adjoining structures were erected. The chancel, which was the private chapel of the house, dates from the fifteenth century.

We see in the earlier parts of Haddon Hall all the characteristics of a Transitional period, and the hall is of Perpendicular architecture. The offices attached to it are spacious, and suitable to the advancing ideas of comfort; containing store-rooms, buttery, and kitchen, with ample hospitable-looking fire-places. In the exterior there are still remains of the details of fortification in the "crenellated" parapets, but in the later additions to the building, domestic influences are paramount. These additions are of much later date, and have probably replaced an earlier structure on the same site. The Elizabethan wing consists of a long gallery, as usual in such buildings, a parlour or withdrawing-room for the family, and other reception-rooms, with a range of servants' offices below. The whole is thoroughly domestic in its character, and looks on one of the quaint gardens of the time, with the charming terrace, so often sketched by artists. We thus find at Haddon that which

is so delightful to the archæologist, a history in stone, not spoilt or falsified by the modern restorer, although the older builders have worked their will upon the pile, and, as usual, have paid little regard to the work of their predecessors. The old Norman church is the key of the whole. It may probably have preserved an especial sanctity. Defences would thus be necessary, if only for the security of the offerings at the shrine. A stronghold would be attached, with walls of *enceinte* to enclose the church. Situated far from the border, we need not suppose the works to have been of great strength or importance, and such as they were they might soon disappear, and their materials be used as a quarry for the succeeding buildings. Each phase of architectural art has left its mark. There is a Norman font in the aisle of the chapel, an early English window in the nave, while one of the Perpendicular period adorns the chancel. The entrance gateway, the hall, and offices are of similar style, and at last we come to the purely domestic buildings of Elizabethan architecture, already described. Here we have large windows, spacious rooms, and elaborate internal decoration of oak-panelling and plaster, with wide fire-places and other evidences of the comfort and refinement of English home life. The type of the Mediæval fortified mansion or manor house had passed away with the feudalism which had first given birth to it, and we may see in these transitional mansions a striking evidence of the increase of wealth and luxury among the people, which has continued to our own time.

Having passed in review the principal distinguishing peculiarities of the Mediæval architecture of the fifteenth century, we may perhaps now turn our attention to the succeeding phases of English architecture. After the close of the fifteenth century, the forms of Mediæval art became poor and debased, the style appeared to be dying out, and a change was imminent. It came in the forms known to us as Elizabethan and Jacobean, to be shortly followed by the Renaissance and Classic Revival.

In treating of this Transitional work it must not be supposed that the principles which guided it are only to be observed in great palaces and mansions. We naturally think first of such lordly piles as Hatfield, Hampton Court, Haddon, and the like, but it may be doubted whether the examples to be found in more humble tenements are not, at the least, of equal interest. Indeed, it is often the exuberance of ornament in the great mansions which offends an eye better pleased with the quaint though simpler treatment of the Elizabethan grange, farmhouse, or cottage. It must, I think, be admitted that the style proved itself equal to the demands made upon it, although with drawbacks to be presently noticed; and that, so far, it may, therefore, be held to have justified its existence.

(To be continued.)

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

WHEN Mossop's health had improved a little, he proceeded to London, with a view of making a number of engagements for the ensuing winter; but misfortune pursued him thither. His creditors were on his trail, and among them a Mr. Graham, one of his own performers, had him arrested for non-payment of his salary. This first arrest was quickly followed by others, and poor Mossop soon found himself inside the King's Bench, with little prospect of relief. A few staunch friends still rallied round him, deeply sympathising in his downfall, but the material assistance he received was far from being sufficient to place him again erect on his feet. At Smock-alley another benefit was announced on his behalf previous to the beginning of the season, and on this occasion

a prologue was spoken by Ryder, who exerted himself in the most earnest manner to mitigate the dire necessities of the late manager. The following public advertisement was issued by Mossop's sympathisers:—"The friends of Mr. Mossop make no doubt that the lovers of the drama in particular, and the nobility and gentry of this kingdom in general, ever eminent for their encouragement of merit, will exert themselves on the above occasion, as Mr. Mossop's case is peculiarly severe, having at great trouble and vast expense, during the summer, made very considerable engagements in England for the entertainment of this city, when on the very eve of his return to this kingdom, to reap the harvest of his labours, he met the hard hand of oppression, and that chiefly from people of his own profession."

The play of "The Orphan" was the one selected for Mossop's benefit, and we read that there never was a more crowded house. On account of an overflow of the house the play was repeated two nights after, and the bills contained these additional words as a reminder to the well-wishers of Mossop:—"This humbly hoped the nobility and gentry will exert themselves, and bring to his native country one of the best theatrical performers now living." The amount realised by the benefits, though cheering in one sense, were, as a whole, entirely inadequate for the purpose in view. Mossop's debts were so great that they were sufficient to press him to the earth. After suffering a severe confinement there was no other resource for him but to take the benefit of the bankruptcy act, which he did, thus wiping out his heavy indebtedness and regaining his liberty. His native land, however, never saw Mossop again. Smock-alley theatre at this time was kept open by Ryder under extreme difficulties, and it redounds to his credit, as a manager and actor that he proved himself equal to the task. Jackson and his wife were, of course, a great acquisition, particularly in tragedy, and both performed in a round of characters. Ryder's wife, too, proved of infinite service to her husband, playing among other characters, Clementina, Constance in "King John," Lady Macbeth, &c.

At Crow-street, Dawson and his partners evidenced considerable industry in catering for the amusement of the public. In October, Dawson proceeded to London to make new engagements, and in the meantime the theatre was repaired and re-decorated. Dawson and the veteran Macklin were old friends, and the principal object of the former's visit to London was to secure the services of the latter. Crow-street opened on the 11th of November, 1771, with the "Provoked Husband" and the "Devil to Pay," the cast of characters being as follows: Lord Townly, Sparks, jun.; Manly, Heaphy; Count Bassett, Mahon; Squire Richard, O'Keefe; Sir Francis Wronghead, Macklin; Miss Jenny, Miss Ashmore; Lady Grace, Miss Hearne; Lady Wronghead, Mrs. Heaphy; and Lady Townly, Mrs. Lee (late Mrs. Jefferies of Drury-lane, and her first appearance in Dublin), with the Jobson of Sparks, sen., and the Nell of Miss Ashmore.

An old favourite with the public, Mr. Sheridan, was engaged, for six nights, and played Cato, Hamlet, Lear, Richard, and other of his personations with his usual ability. About this time Vandermere, a comedian of reputation, made his *début* on the Crow-street boards in the character of Lord Ogleby. Vandermere, it is stated, sustained this character with much propriety. He continued for several years a great favourite with the Dublin public. Though Lewis at this period was very young, we learn that his reputation was rising, and that he was capable of supporting a very extensive line of business in tragedy and comedy with great ability. Miss Ashmore, too, still continued to be a favourite in this city, electing to stay there although pressed with tempting offers from London managers. An author already often acknowledged by us writes of this actress:—"Had she accepted of several offers made

\* See ante.

her from the London theatres at that time, there is every probability that in so correct a school, she might have been clesed amongst the first actresses on the British stage." Miss Ashmore was married soon after to Richard Sparks, the son of the noted comedian already mentioned.

It might be thought that with so good a company crowded houses and a full exchequer would have signalised the Crow-street management at this time. Public patronage, however, has been always fickle, and let managers do their very best betimes, ill success may overtake them. Notwithstanding exertion and attention to public wants at Crow-street, the audiences began to grow thin and the receipts small.

Amateur theatricals at this period in Dublin were beginning to attract public notice. There was a famous grammar school flourishing at this time in Grafton-street, kept by Samuel Whyte, under whom subsequently our national poet, Thomas Moore, was educated. Whyte was an excellent master, and his system of educating youth was, perhaps, one of the best adopted. A number of Whyte's pupils performed the tragedy of "Cato" at the little theatre in Capel-street during the Christmas recess, and, according to Hitchcock, "with a propriety and strength of genius that would have reflected credit on the first actors on the stage." These amateur performers acquitted themselves so creditably that at the request of a large number of the nobility and gentry who attended, they repeated "Cato" a few nights afterwards, for the relief of the confined debtors in the several marshalseas. We read that the Marquis of Kildare, the Earl of Bellamont, and Lord Dunluce, acted as trustees on the occasion. Whyte was a man of literary taste and culture apart from his scholastic talents, and it will not be out of place here to allude to one or more of his works. In 1772 was printed by R. Marchbank in Cole's-alley in Castle-street, a large volume of upwards of 500 pages, entitled "The Shamrock: or Hibernian Cresces: a Collection of Poems, Songs, Epigrams, &c., Latin as well as English, the original production of Ireland." To the above was added in the same volume "Thoughts on the Prevailing System of School Education, Respecting Young Ladies as well as Gentlemen, with Practical Proposals for a Reformation."

The following is the title of another of Whyte's literary performances published in 1793-4, being a second edition of the work revised by Whyte's son, who carried on the classical school founded by his father for several years into the present century—"A Collection of Poems, on various subjects, including the Theatre, a Didactic Essay, in the course of which are pointed out the Rocks and Shoals to which Deluded Adventurers are inevitably exposed. Ornamented with Cuts and illustrated with Notes, original Letters, and Curious Incidental Anecdotes, by Samuel Whyte. The Second Edition carefully revised by Edward A. Whyte, F.C., T.C.D. Dublin: Printed by R. Marchbank, and sold by Exshaw, Archer, Jones, Moore, Mercer, &c., and by the Editor, No. 75 Grafton-street, and in London by Murray, in the Strand, Dilly, &c."

Hitchcock speaks of the many obligations the community at large owe to Mr. Whyte, and writes thus:—"Intimately connected with Mr. Sheridan, thoroughly acquainted with his pronunciation and mode of communicating his ideas on the advancement and perfection of the English tongue, he commenced teacher, and since that time has, I believe, contributed more towards understanding, the various beauties, and critically reading, writing, and speaking the language, than any other professional gentleman in the kingdom. Possessed of classical knowledge and refined taste, the youth committed to his care amply reaped from his instruction every advantage which eminent abilities and judicious observation gave; and he has the honour of saying that many of the best orators in our senate, and

greatest ornaments of the pulpit and bar, have received the early part of their education under his government."

We might write much and quote much ament Samuel Whyte and his once famous academy in Grafton-street, and also of his pupils and those of his son. In one of the back volumes of the IRISH BUILDER will be found an article on "Thomas Moore and his Schoolmaster," Samuel Whyte; and in one of Mr. Gilbert's volumes, the "History of Dublin," further particulars will be found respecting Whyte and his son.

Returning to the subject of the Stage proper, we find disasters following the footsteps of Mossop, and his friends again and again trying to extricate him from his difficulties. In January, 1772, the following announcement appeared in the London newspapers:—"On Saturday se'night Mr. Mossop appeared before the Commissioners of Bankrupts at Guildhall, being the third meeting, when he passed his examination and delivered up his effects, which were about £130 in cash, a £40 and a £10 bill, his gold watch, &c., when the creditors humanely gave him back his bills, gold watch, &c. Mr. Garrick attended and proved a debt of about £200. We are informed that Mr. Mossop will soon make his appearance at Drury-lane in the character of Pierre." The appearance and personation announced in the last sentence never took place. In Dublin once more another effort was made to help the unfortunate Mossop. A benefit was advertised, and Mrs. Fitzhenry offered her services on the occasion, playing Zaphira in "Barbarossa," on the 23rd of March. Although the receipts were considerable on this occasion also, they afforded but a temporary relief. At this period in Dublin theatrical disputes and contentions among sections of the public, who had each respectively their own views as to how theatres should be conducted, led to a reaction. Theatrical opposition had a long life, but while some considered opposition as good, others considered a monopoly was better. To put an end to rivalries several persons united in the idea of applying to parliament for establishing but one theatre in the city. It was considered at the time that one theatre was quite sufficient, and that there was not enough of patronage in Dublin to support two; but long years before, as our readers may be aware, the same thing was said, and still three or four places of public entertainment were open betimes. A ruinous and expensive theatrical opposition in Dublin worked ill to the drama and to managers. Were the two existing theatres contented to steer a clear and legitimate course, all might fare well; but managers were generally, if not always, prone to undermine each other's house by unfair proceedings. This warfare led to expensive contests, and supremacy was for a while only gained at an enormous outlay. To carry out the idea of establishing one theatre in Dublin a committee was formed, a petition prepared, and a meeting called at Bardin's Hotel, College-green. Mr. Thomas Sheridan, at the same time, published a pamphlet containing the substance of an address delivered to a number of auditors at a meeting held at the Music Hall, Fishamble-street. Sheridan went boldly in for establishing one theatre only, believing that it was the sole means of restoring the Dublin stage to a proper degree of credit and respectability. The meeting mentioned was held, but it resulted in very little good. The opinions expressed on the occasion were so various that no definite steps were taken to carry out the objects proposed.

**CHRIST CHURCH CATHEDRAL.**—A large amount of nonsense has been ventilated in the daily press for some weeks back on the subject of screens, altars, church innovations, and decorations. Mr. Street's cars ought to be warm, and his blood tingling in his veins by this time, but he is possibly aware that the majority of the scribes who have written know as little about architecture as a turkey-cock does of the telephone! The re-opening takes place this May Day.

## THE PARIS EXHIBITION.

A CORRESPONDENT of the *Journal of the Society of Arts* contributes to that journal a lengthened account of the Paris Exhibition which opens on this day. He says:—

Anyone unaccustomed to exhibitions and extensive buildings or other works paying a visit to the Champ de Mars or the Trocadéro, and especially in such weather as that of last week, when the rain was almost constant, would never believe that the doors could be opened on the first of May, so terrible is the mud and dirt, so fearful the apparent confusion, and so beyond all apparent hope the completion of the work. But, to those accustomed to great exhibitions, the effect, according to my judgment, must be very different. The approach to the main building, except by the chief entrance, that in the Avenue de la Bourdonnaye, Porte Rapp, where there is a covered way from the road into the building, is certainly enough to discourage any who are uninitiated in such matters, for the number of buildings that lie around, mostly, however, finished as regards rough work, the constant passing of railway trucks, wagons, and vehicles of all kinds, in what in a few weeks is to be a beautiful pleasure ground, the soaked condition of the earth, and the constant trampling of thousands of feet, combine to make a fearful chaos, and in the lower parts near the river almost impassable swamps. But a few day days and a little sun will make a magical change.

The covered way, or Marquise, of Porte Rapp, already mentioned, deserves special notice as an instance of the provident care of the Commission. On each side of the entrance gates, are buildings, one containing the offices of the Commission, the others those of the jury, between these is a long iron arcade, with an upper floor which is to be covered, and to form a communication between the two buildings; from the arcade and at right angles to it, a broad roof, supported on pillars, and having wide wings, on brackets, leads to the door of the building. The way thus covered cannot be much less than 100 ft. wide.

The grounds on this side of the building are full of interest, including all the annexes of the French section, appertaining to machinery, erected by the directors of Creusot, Terre-Noir, and other large establishments, and on the margin, in continuation of the commission and jury buildings mentioned, general annexes stretch the whole of the rest of the length of the Champ de Mars. The agricultural machinery building, which forms a portion, is one of the largest and lightest wooden structures of the kind I have seen, being supported by light trellis girders, in the form of pairs of cantilevers, rising from the floor and meeting under the ridge, while throughout the whole length of the building is a range of cast-iron standards, all ready to receive the bearings of driving shafts for giving motion to thrashing and other machinery. I must defer further description of the various buildings hereabouts to another opportunity, but it will be well to say that descending towards the river and taking the left hand, that is to say, in front of the great building, we arrive at the principal horticultural establishment, which consists of five or six and twenty glass houses, the foundations of all of which, and the superstructures of several, are finished or in process, with numerous kiosques and other special buildings, and in the midst a handsome chalet for a restaurant—every section of the Exhibition has its restaurant, café, brasserie, or buffet. Further on, towards the river, are the great buildings to contain the marine group, the ports of France, and other special and important collections, all finished or very nearly so; and still further, on the banks of the river, approached by steps from the quay, the great marine aquarium, with its oyster parks, seal tank, and artificial river. Turning to the right instead of the left, we find half the Quay d'Orsay covered with well constructed, lofty, broad, wooden structures, for the exhibition of agricultural produce, in a double row, reaching all the way from the Champ de Mars and the Pont de l'Alma, a distance of twelve hundred feet or more. Nor is this the limit of the Exhibition, for passing along the same quay still further, we find two-thirds of the grand esplanade of the Invalides covered with large sheds for the various cattle exhibitions, six deep throughout the whole length, and all ready for use.

Here, too, may be noted another important work which is in progress and will shortly be finished—a tramway, which will complete the line of communication between the Champ de Mars and the Place de la Bastille; and this naturally brings to mind the other special means of conveyance provided, or to be provided for visitors to the Exhibition. Last week, the branch railway from the Grenelle station to the Champ de Mars was opened,

and I availed myself of one of the first day's trains; at present they leave the station of the Chemin de Fer de l'Ouest, Rue Saint Lazare, once an hour, from nine till six, but shortly they will run much more frequently; the journey occupies little more than forty minutes, and the charge is a franc for first and half a franc for second-class tickets. In a short time the same railway will have a branch from its station at Passy almost to the door of the Trocadéro building. A tramway already runs from the centre of Paris past the foot of the Trocadéro, in the sunken road which now diverts the traffic from the quay, and which is so broad and gradually inclined that it has no appearance of being anything but an ordinary road; over it is a handsome iron bridge, which, with the Pont de Jena, forms the connection between the Trocadéro and the Champ de Mars.

The platform, which covers and greatly widens the last-named bridge, is finished, except the steps at each end. Finally, a large new landing-stage has been constructed on piles close to the Champ de Mars for the accommodation of a whole flight of *mouches*, steam fly-boats, which are already plying on the river. Add to these the omnibuses and other public carriages, and the means of arriving at and getting from the Exhibition certainly promise to be tolerably complete.

Amongst the special exhibits I may mention one which is being prepared by the side of the landing-stage in question; it is a model—full-sized, I believe—of a sewer constructed on a new plan, but concerning which no particulars are yet published. There is no doubt that the sewage question will receive other illustrations during the Exhibition, for I am extremely sorry to learn that all the praiseworthy efforts of the Paris authorities, and of the engineers of *ponts et chaussées*, who have conducted the experiments at Cluny, and the service of sewage to the market-gardeners' district on the Plaines de Gennevilliers, have not succeeded in applying the sewage to the ground. The quantity of sewage-water distributed on that arid plain has undermined several houses, and proprietors have sued for and recovered damages from the city in consequence; the authorities have, therefore, determined to construct an immense double culvert, ending in a deep basin, in which the solid matters in the sewage is to be precipitated, when the purified water will be let into the river, and the solid manure carted away to the plains. The authorities have long ago proved that none of the methods of precipitation yet tried can be made to defray expenses, but they have wisely laid it down as a positive law that the public health demands that the purification shall be effected *côte que côte*!

To return to the Exhibition proper. Approaching the building by the front, I note the façade decorated with illuminated shields of the exhibiting nations, which are to be surmounted each by its own colours; above the arch of the great door will be a device indicative of the French Republic, Peace and Prosperity; the great wrought-iron pillars are being filled in with slabs of brilliantly-coloured *faince*, and on pedestals below a series of fine colossal figures are being set up, and are very effective.

Entering the grand vestibule, the first thing, perhaps, that will strike most people is the novel kind of decoration that has been adopted. All attempt, or nearly all, at treating the building as an iron one, has been abandoned; the ceiling is filled in with composition casts, those in the centre being circular, and of immense size, probably 30 ft. in diameter, in strong wooden frames, and when on the floor, no one would have guessed that they were intended to be fixed overhead; their weight must be enormous. On each side of the preceding are three ranges of panels, and outside these again are decorative coverings; the ornament is principally in dusky gold, with reddish brown reflections, and in the coverings a little vermilion is introduced; the other colours are generally of a neutral character. The clerestory windows are peculiar, each being divided into nine equal parts, and the frames so planned that there is a square in the middle of each division, while all the rest of the bars are set obliquely, producing a number of triangular panes around the central squares, and beyond the former a number of squares set lozenge fashion. A few of the panes are decorated with white scroll work on a blue ground stencilled on, and the remainder are rendered opaque. The effect does not strike one as very satisfactory, but the plan is a good one, and might be made to produce admirable results without much expense. The huge wrought-iron pillars which support the roof, sufficiently large to contain fixed ladders, by means of which the top of the building is reached, are treated as metal, painted and heightened with bronze powder on the rivet heads and other prominent parts, but they are fitted with panels formed of plaster casts, painted and gilt, and over these with gilt medal-

lions bearing the letters "R.F."—*République Française*.

Remembering that this noble vestibule was intended to be the grand promenade of the Exhibition, graced only with some of the most exquisite productions of Europe and Asia, it was startling at first to find it more like an enormous carpenter's shop than anything else, with an army of men busy at work. From end to end, with the exception of the central part reserved for M. Linden's grand trophy of Belgian horticulture, the middle portion is being covered with large structures. Of these by far the most remarkable is the Indian temple, in which are to be exhibited your President's treasures, with some of those of H.R.H. the Princess of Wales, and a selection of the most beautiful objects of Indian manufacture attainable. The pavilion was designed and is being erected under the eye of Mr. C. Purdon Clarke, the official agent for the Indian section; it is a compound structure, consisting of two pavilions, each having an upper floor, and connected by a long narrow arcade-like structure. The whole is formed of extremely slender and elegant colonettes set wide apart, the spaces to be filled in with plate-glass on all sides; along the central part is a frieze formed of open-work panels, and over each pavilion is a complication roof with several small domes surmounted with spikes. The structure is 130 ft. long and about 30 ft. in width and height. It is much admired. It is being painted a bright chocolate colour, relieved with a little gold; other colours were tried experimentally, but this was considered the most successful. Just beyond this temple is a third pavilion, precisely like the other two; this is being constructed for the Colonial Commissions conjointly, to contain a selection of the most remarkable productions of our other possessions abroad. Canada, in addition, is erecting a large trophy of her own in the angle beyond, facing the machinery court.

In the French half of the vestibule several large timber structures are in hand, one being, I believe, for the State jewels. At the end is a remarkable grand pedestal in the Byzantine style, which is to support an equestrian statue of the Emperor Charlemagne. The pedestal has a solid base, and above this it is arcaded with coupled columns, surmounted with a socle, on which are represented the ornaments that formerly figured on the crown of the monarch, altogether a novel design well worked out. The emperor wears his crown and imperial mantle, holding his sceptre in hand, and is attended by two warriors. The group was modelled by an eminent artist, M. Rochet, who did not live to see it east. It is in bronze, weighs nearly twenty-five tons, and was erected by M. Thiébaut, of Paris.

From the place of this noble group the eye takes in the whole length of the French machinery court, the largest ever devoted to such a purpose; the amount of work to be done here within the next few days is enormous, but by first of May it will, I doubt not, present a pretty complete appearance; at present more than one large driving engine is ready for work, and a large number of heavy castings and pieces of machinery are rapidly being got into place. Even this enormous gallery will not contain half the machinery and metal work shown by France, for parallel with it is an annexe of the same length for machinery and apparatus not in motion, in which platforms on both sides and down the middle are all ready to receive them, besides all the buildings in the grounds mentioned above.

From the other end of the vestibule is seen the corresponding foreign machinery court, the British section at the head, and forming about one-third of the whole. The most conspicuous objects at present are a large horizontal compound engine by Messrs. Galloway—who have their boilers outside—and a large space being covered with lead and otherwise prepared for Messrs. Platt Brothers and Co.'s spinning machinery. But every day tells, and, with the aid of one of Messrs. Appleby's steam cranes, on rails at the sides, huge loads are dropped into place with great celerity. England has also immense machinery and implement annexes outside, all ready, and which will be all full before another ten days have passed.

In the triple industrial courts, all the Commissions seem to be progressing admirably; it has been stated by French authorities, that the British section is the most advanced, and there is no doubt that all will be ready in capital time. Already in the textile, ceramic, and other classes, a great number of large and handsome cases are in place, and an interesting scene occurred the other day, when Messrs. Adams and Bromley, of Hanley, filled their case with a fine collection of decorative ware of various kinds, and some French workmen who had been employed by the firm, presented Mr. Adams with a pot of handsome flowers, with a label bearing the following inscription:—"Bonheur, honneur et hommage au premier exposant; offert

par la France. Vive l'Angleterre: Vive la France!"

I feel pleasure in adding on my own testimony that the French industrial courts are in a most promising condition; long lines of handsome cases, including those of the Lyons, St. Etienne, and other textile centres, are completely finished and inscribed with the names of the various towns, the woodwork of many courts is done, and that of many more proceeding rapidly, velums and screens are in place, and a portion of exceeding elegant drapery, specially designed for the decoration of the ends of these three galleries, where they are cut by transepts, was put up some days since. Speaking of velums, I should mention that the British Commission has adopted a material similar to that used in 1867, an unbleached cotton with British Indian symbols, printed in pale gold colour, distributed over the surface, while other Commissions generally adopt plain white. The former is preferable in my opinion.

Canada covers a large space in the industrial courts with very handsome cases, generally uniform, constructed of light and dark woods of the country, and exhibiting good taste and workmanship.

Other foreign sections are in a highly satisfactory state, but I must defer at present speaking of more than one—namely, China, which has the most ornate and largest cases in the Exhibition, together with a grand portal which forms the main entrance to her court. These cases, more than twenty in number, are composed of pillars, with elaborate roofs like temples, formed of woods of many colours, and decorated with carving and pierced work of the most varied and elaborate kind, gilding, and colour. No two, I think, are alike, either in form or ornamentation, and altogether they are marvels of ingenuity. The Chinese buildings on the Trocadéro, too, are on a large scale, and promise to be highly attractive. I may just add that the Japanese are finishing off a small elaborately decorated court close to the Chinese.

The works proceeding and executed in other parts of the Champ de Mars and on the Trocadéro are almost innumerable, and many of them highly interesting.

The great question of free admission, or low charges on Sundays, has been much discussed, and is settled in the following manner; the price of tickets is to be the same as on other days, that is, one franc during the first two months, half a franc during the two next months, and four sous afterwards. Many persons believe that a uniform charge of four sous would have brought more money to the exchequer, besides enormously popular.

Amongst the special exhibitions included in the vast plan is one for workmen's productions exclusively, which is to be held in a building in the grounds, measuring 42 metres by 13, with two annexes 15 metres long, with a piece of ground for gardeners. The Municipal Council has contributed 50,000 frs., and the General Council of the Seine 20,000 frs., to meet expenses. Nothing protected by patent or otherwise will be admitted.

The Chamber of Deputies has voted a considerable sum, to enable the President of the Republic and high officials to *fête* their guests from abroad in a worthy manner without heavy charge to themselves. The vote was preceded by another which deserves special notice; it grants to all *employés* under Government receiving less than 2,400 francs per year, an addition of ten per cent. to their salaries during the time of the Exhibition: this amounts to nearly a million of francs. The other votes are half a million to the President, a quarter of a million each to the Ministers of Agriculture and Commerce, and of Foreign Affairs, 150,000 francs to the Minister of the Interior, and 100,000 to each of the other Ministers, making, in all, a total of 2,722,500 francs; and half a million has been voted besides to the Minister of Agriculture and Commerce for the cost of travelling of agriculturists and workmen sent up by the departments to study the Exhibition.

The city authorities will also give entertainments at the Luxembourg, which is being decorated for the occasion.

It will be well, perhaps, to add that there are entrances on all sides of the Exhibition, sixteen in number, several having three or four gates; and that ordinary tickets of admission will be procurable, not only at all post and telegraph offices and tobacconists, but at omnibuses and other stations, and at kiosques, specially placed for the purpose near all the entrances of the Exhibition on both sides of the river.

**SOCIAL SCIENCE CONGRESS.**—This year's annual Congress of the National Association for the Promotion of Social Science is likely to be held at Cheltenham in the autumn, provided there is locally subscribed a sum sufficient to cover the expenses attendant on the proper reception and meetings of the body in the above town. More than a third of the money has already been raised.

## NEW ORGAN IN WICKLOW CHURCH.

THIS church has been provided with a remarkably fine organ, built by Messrs. William Browne, of this city. It has been erected in the west gallery. The case is of a massive character, consisting of three round towers, fitted with large gilt pipes, supported by rich mouldings and carved corbels, and surmounted by handsome canopies, the centre one rising to a height of 22 ft. The spaces between are filled by rows of pipes standing on carved panels. In its musical effect the organ is equally satisfactory, having great power and volume of tone, combined with variety and sweetness, the flute, gamba, claribella, and oboe being very effective as solo stops. The following is a description of the organ:—Great organ, C C to G, open diapason, gamba, clarabella, principal, wald-flöte, twelfth, fifteenth, mixture, three rank, clarinet; swell organ, C C to G, double stopped diapason, open diapason, dulciana, principal, oboe, pedal bourdon, couplers, swell to great, great to pedal, swell to pedal, three composition pedals on great organ. The instrument, a work of native manufacture, reflects credit on the establishment in which it was built. The opening services in connection with the organ took place on Sunday, in presence of a large congregation. The Rev. Henry Rooke, the incumbent, to whose zealous efforts the church has been indebted for the new organ, preached at the opening services. Collections were made on each occasion in aid of the organ fund, and the necessary alterations of the church.

## PROPOSED NEW BRIDGE OVER THE THAMES.

THE Metropolitan Board of Works, in adopting the report of their Works Committee on the memorials of the Whitechapel District Board of Works and the vestries of St. George's-in-the-East and Rotherhithe, on the subject of a new bridge over the Thames, have approved the design for a bridge of one span. The committee were, it seems, unanimous in their opinion that a suspension bridge would not suit the heavy traffic of the locality. They therefore recommended the construction of a bridge of one span from a spot between St. Katharine's Dock and the Tower on the north to Horselydown Lane on the south. The span would be one of 850 ft., and thus the traffic on the river up to London Bridge would not be interfered with. The bridge would be the largest of that kind of construction in the world. The approaches were estimated to cost £850,000, and the bridge £400,000, making a total of £1,250,000. Sir J. W. Bazalgette in his report stated that all the approaches to the metropolitan bridges have inclinations steeper than 1 in 40, which would be the inclination on the Surrey side of the high level bridge which he suggests; on the north side the inclination would be 1 in 50 to 1 in 60. The roadway would be 40 ft. in width, and a footway 20 ft. wide would rise by the side of it from Little Tower Hill up to the bridge. The southern approach would commence in Tooley-street, east of Queen Elizabeth's Grammar School, and would rise by taking one-and-a-half turns round a spiral curve about 300 ft. in diameter at the back of the Anchor Brewery, and thence on to the bridge at Hartley's Wharf. Foot passengers would go by a shorter route, ascending at an inclination of 1 in 14, which is rather easier than the footway approach to the south side of Charing Cross Bridge. It is the engineer's opinion that a trussed girder bridge of one span, in an arched form, with the roadway carried across the arch and suspended from it, will probably afford greater advantages than any other sort of bridge. The material of the bridge should be steel; its width 60 ft.—namely, a carriage-way of 36 ft., and two footways of 12 ft. each. This would be 6 ft. wider than London Bridge. The description of the design states that it is a braced arched bridge, crossing the river by one span of 850 ft., having a rise equal to

one-eighth of its span, the roadway passing through the arch and being partly above and partly below its soffit. The height of the bridge would be 65 ft. above Trinity high-water mark. A member of the Board said he considered Sir J. W. Bazalgette's plan and design were a grand conception. We should mention that the East River suspension bridge, now in course of construction at New York, is stated to have a central space of 1,600 feet!—*Building World*.

## HEALTH AND SEWAGE OF TOWNS.

THE Conference on this subject will be held at the Society of Arts, London, on Thursday and Friday, 23rd and 24th inst., the Right Hon. James Stansfeld, M.P., late President of the Local Government Board, in the chair:—

Thursday, 11 a.m.—Opening of the Proceedings by the Chairman. Papers and discussions on—Public Health as Affected by various Treatments of Sewage.

Gradual Abolition of Ce-spools and Middens, and Substitution of Tubs and Pails with speedy removal.

Whether any further Legislation, of a Compulsory or Permissive Character, is needed for bringing about a better Sanitary Condition of Towns or Dwellings.

Progress, if any, made in the Utilisation of Excreta since the last Conference.

Progress, if any, made in Treating Water-carried Sewage since the last Congress.

Escape of Sewage-gas into Dwellings, and Modes of Prevention.

Discharge of Sewage into Sea.

Cost of Systems given in the last Report of the Local Government Board.

Friday, 11 a.m.—Proceedings will be resumed. Papers and discussions continued.

The object of the Conference is to discuss existing information in connection with the results of the systems already adopted in various localities; to elicit further information thereon; and gather and publish, for the benefit of the public generally, the experience gained. There will be an exhibition of Appliances connected with Sanitation and Water Supply.

## BOOKS RECEIVED.

*Boiler and Factory Chimneys: their Draught, Power, and Stability; with a Chapter on Lightning Conductors.* By Robert Wilson, A.I.C.E. London: Crosby Lockwood and Co.

THIS is an exceedingly useful little work from an author already known, who has given the public a "Treatise on Steam Boilers," "Common Sense for Gas Users," and other kindred works. The present work is preceded by a frontispiece giving a table of the dimensions of chimneys, and is followed by four chapters on Chimney Draught, Stability of Chimneys, Descriptions of Chimneys, and Lightning Conductors. The subject, as a whole, is one of great importance in these days, either in crowded towns or in open localities. Chimney draught—which is a vexed subject, whether in connection with factory or domestic chimneys—is one that merits a good deal of attention; and the author appears to have devoted a considerable amount of attention to the matter, with good results. The chapter on Lightning Conductors is also a very instructive one, and scientifically treated. In a word, this little work is, in our opinion, a capital one, and we can cordially commend it to all factory owners, and to builders and owners of large sawing, moulding, and joinery works wherein large boilers and tall shafts are necessary for the conduct and carrying out of sundry operations in connection with their trade.

*Magazines.*—We have to hand copies of the *Daisy*, a "Family Journal of Pure Literature," and the *Christian Age*, both from the same publishing offices, Dickenson and Lobb, Farringdon-street, London. They are creditably brought out, and are suited for the constituency they appeal to for support.

## INTENDED CONGRESS OF THE BRITISH ARCHAEOLOGICAL ASSOCIATION.\*

THE Council of the British Archaeological Association have accepted the invitation of the Mayor and Corporation of Wisbech, to hold the thirty-fifth annual congress of the Society in their ancient port and borough, some time in the month of August next. The Hon. Congress Secretary, Mr. Wright, F.S.A., who has lately visited Wisbech, says there is reason to believe that the town and neighbouring districts will afford a very wide and interesting field for archaeological study and research. "The Fenland," as it is called, presents a large amount of antiquarian interest, not only from its especial and early history (the Iceni having dwelt partly in Cambridgeshire, and it is supposed originally formed the dykes which covered the open lands between the forests of Essex and the Marsh districts), but from the after-works of their Roman conquerors, who constructed roads (notably a branch of the Akeman-street, from Cambridge to Cirencester, and the Via Devana from Cambridge to Colchester or "Wool-street," as generally called by the country people) and banks in various parts of Cambridgeshire, and left other evidences of their occupation in the camps and stations of which Cambridge itself, as Camboricum, and Granchester not far from the Via Devana (running from Cambridge to Chester, the Deva of the Romans, meaning a town on the Dee), are, perhaps, now the best known of this important class of ancient remains.

As illustrating Mediæval and later history, the Cathedral of Ely and the famous churches of the Marshland, stand out, and in themselves will present a feature of interest. Although Ely Cathedral was visited by the Association during the Norwich Congress in 1857, it is intended to pay to that now fully-restored work a day's visit; whilst to the churches of the Fenland, such as Walsoken with its Northern nave, Whittlesea with its richly ornamented Perpendicular steeple, Leverington with its Early English tower and parvise chamber over porch, West Walton with its noble detached bell-tower and porch of Trans-Norman date, Walpole, Emmeth, Elm, &c., and the fine specimen of Norman, Decorated, and Perpendicular architecture in the Church of St. Peter and St. Paul, Wisbech, as much attention will be devoted as time and circumstances will allow, as well as to the interesting remains of the Abbeys of Thorney and Crowland, once the chief glories of the old Fen country.

Wisbech being the centre, as it were, of parts of four different counties, excursions will be made to places of interest within them, and thus King's Lynn, Castle Rising, and Castle Acre, in Norfolk, will form one day's work, Peterborough Cathedral and Castor (the remains of a Roman encampment) in Northamptonshire, probably occupying another, these places being all accessible by railway communication. In Lincolnshire it is proposed to visit Burleigh House, the Elizabethan mansion of the Cecil's, and, if time will permit, the neighbouring town of Stamford. In that country there are many places of antiquarian interest to be inspected, amongst them especially, the remains of Ramsey Abbey and the site of what once was Whittlesea Mere. The drainage of the whole of the Fen district, now known as the Bedford Level, about sixty miles in length, from Milton in Cambridge to Toynton in Lincoln, and in breadth about forty miles, from Peterborough in Northampton to Brandon in Suffolk, was commenced in 1634 and was finished, after many vicissitudes, soon after the commencement of the present century, and, as a history of successful and early engineering, deserves to be especially noticed by all archaeologists. To conclude the week, a visit to Cambridge will be arranged, and there, with the assistance, it is hoped, of the Cambridge Archaeological Society and the authorities of the University, a most interesting

\* From the *Builder*.

time will be spent, not only in the examination of the architectural features of the colleges, but in visits to such places as the "so-called" school of Pythagoras, the Round Church, old houses near Magdalen Bridge, the Falcon Inn and Yard, Petty Cury, and ancient buildings in Barnwell. Inquiries may be addressed to Mr. George R. Wright, Junior Athenæum, Picadilly; or to the Hon. Local Secretaries, Dr. R. A. Douglas Lithgow, and Mr. John Leach, Wisbech.

#### EXHIBITS AT THE ROYAL DUBLIN SOCIETY.

THERE was a pretty large display of implements and machinery at the Royal Dublin Society's Spring Show, which opened on the 23rd ult., lasting the three following days. Among the largest exhibitors in the farming-implement way were Messrs. Kennan and Sons, Fishamble-street. Of other local exhibitors, in their respective fields, were Messrs. Edmundson and Co., Capel-street; Ward and Ritchie, of Ardee, Louth; Carson and Sons, Bachelor's-walk; Brown and Co., of Redmond's-hill; Dennehy, of Lower Baggot-street; and several others. In the exhibition gallery, Mr. William Fleming, of Dawson-street, displayed self-acting window-blinds and patent woven-wire mattresses. Messrs. Dockrell and Sons, of South Great George's-street, carved chimney-pieces, gilt pier-glasses, fenders in marble with tile hearths, &c. Messrs. Pigott and Co., of Grafton-street, some good specimens of cottage pianofortes. A collection of oils, colours, and varnishes, and specimens of plate-glass were displayed by Messrs. Beater and Co. Messrs. Carson and Sons, we might have added, had on view specimens of their noted anti-corrosion paint now so generally used. Bed-room furniture was displayed by Messrs. Peyton and Tedcastle, of Upper Sackville-street. Of building and sanitary appliances, calling for special notice, there were little or none. We would like to chronicle something more of native products, and less of imports, on the part of Irish exhibitors.

#### STAVES AND CASKS.

THE art of making casks was known and practised by the ancients. The invention is generally ascribed to the vine growers of ancient Italy, who, it is supposed, were the first to devise the principle of construction, and who succeeded in building up with separate pieces of wood vessels capable of containing liquor. That the mode of constructing casks ranks amongst the ancient mechanical arts may be gathered from the works of the early classical writers and commentators. Pliny ascribes the invention of casks to the people who lived at the foot of the Alps, and mentions that in his day they were lined with pitch. In the times of Vespasian and Tiberius the art of forming vessels by binding together separate pieces of wood seems to have been well known; and previously to that period, Varro and Columella, in detailing the precepts of rural economy, distinctly mention vessels formed of different pieces of wood, bound together with circles of wood or hoops. The art was in all probability introduced into Britain by the Romans. Since that time but little change seems to have been made in the system of working until the introduction of machinery, which by degrees completely revolutionized all the manufacturing departments of the coopers' trade. The Company of Coopers were incorporated many centuries ago, and a record is extant bearing the date of 1396. The trade of cooperage is divided into the following branches,—dry, wet, white, and general coopers, and back makers. Dry coopers make casks for containing dry goods of all kinds. Wet coopering (in hand labour) brings out all the workman's skill, as his productions have to hold water or other liquids. White coopers make tubs, churns, pails, and such like work of the lightest and cleanest work, and general coopers practise all these branches. Back makers construct

the enormous vessels employed in breweries. In France the wood selected for staves and cask heads is prepared in the winter season, and in the following summer is built up into casks.

The figure of a cask proper is that of two truncated conoids joined together from base to base. When the staves are set up collectively in the form of a cask, they are pressed together edge to edge by the hoops, the binding whereof is exerted in direct lines converging to the common centre of the cask. Casks are variously denominated, depending for distinction either upon size, form, or capacity. Hence we have kegs, barrels, hogsheads, puncheons, pipes, and butts, all increasing in strength of material in proportion to size. To ascertain by correct measurement the capacity of a cask is by no means an easy thing to accomplish, and can only be arrived at approximately.

Amongst the various buildings under which the patents referring to casks group themselves may be enumerated—Bending, heating, and steaming staves, bung-hole staves, machine for turning cask heads, cask stands, casks to take to pieces for packing or stowing away, coating or lining wooden casks, composition for ditto, ditto for saturating and preparing wood casks, compressing wood for casks, apparatus for finishing wooden casks; preparing, dowelling, shaping, and finishing, &c.; heating, firing, and steaming casks; bending staves, hoops for wooden casks; turning, jointing, &c., cask heads; sawing staves, sweetening staves for re-use, strengthening wooden casks, surfacing staves, wooden casings for metallic casks; and it need not be added that under the head of "wooden casks" the largest number of patents have been taken out.—From the *Timber Trades Journal*.

#### DRAINAGE AND DOCTORS IN DUNDALK.

IN the local *Democrat* we find the annexed passages in a report of the proceedings of the town board anent the drainage of Seatown-place. If Dr. Browne is reported aright, he certainly must be a man of great apprehension, and of a most comprehensive genius. Was the "sticky kind of matter" found in the pipes sticking plaster, we wonder, and are town drainage pipes usually placed in a vertical instead of a horizontal position?

"Dr. Browne suggested a reconstruction of the drainage in Seatown-place. The present piping, which is only 6 in. in diameter, was choked up by a sticky kind of matter. He was of opinion that pipes of a greater diameter should be laid, and that they should incline towards the place of emptying, which is the Rampart River. The present pipes were at too great a depth, and were in a horizontal position, so that there was no facility afforded for their discharge.

Mr. Curran said he was obliged to have the pipes opened for cleansing, as the street in the vicinity of the drain was flooded. The scavengers were engaged at clearing the pipes.

After some further remarks from Dr. Browne and Mr. Curran, it was ordered that the work of cleaning should be discontinued, until some definite conclusion is come to relative to having pipes of greater capacity laid."

Doctors certainly differ in Dublin and Dundalk; and we fear that the sanitary schoolmaster is still abroad from the latter place.

#### RE BOILER EXPLOSIONS.

ON the subject of boiler explosions, Messrs. Phenix and Standing, of Leinster-street, write a letter suggested by the lamentable accident in this city. They say in the course of their letter:—"The similarity in the water supplied to Dublin and Glasgow has often been referred to. Both are remarkable for their purity and the absence of all trace of lime. This peculiarity causes all iron, when in contact with it, to be liable to rapid corrosion, oxide of iron being produced. With steam boilers, where skilled labour is in attendance, the danger should not be great; but with the boilers now universally in use,

connected with kitchen ranges, for the supply of hot water for baths and domestic use, where no regular cleaning can be made, and the cook is held responsible for its working, we cannot too strongly condemn the use of iron in the construction of hot water apparatus. Should the boiler, circulating pipes, or cistern be made of iron, the inevitable result is that the pipes become choked, the circulation impeded or stopped, increased pressure is placed on the boilers, and sooner or later the weakest part must give way. The remedy is to replace the iron boiler by copper, and to have the pipes and cistern either of copper or lead. This not only removes the danger, but affords clear water, free from that reddish colour often noticed. In Glasgow this subject has received the attention it demands, and the use of copper for such apparatus as we have referred to is universal.

#### HOME AND FOREIGN NOTES.

**THE INSTITUTION OF CIVIL ENGINEERS OF IRELAND.**—A general meeting of this body will be held this evening, at the New Buildings, Trinity College. The business will be a discussion on paper read by Mr. C. F. Green on "Railway Bridge Platforms."

**THE BIENNIAL CONFERENCE OF ARCHITECTS.**—The Conference will commence its proceedings on the 3rd of June, and several papers of importance and discussions thereon are anticipated. Any suggestions regarding the programme of the Conference should be addressed to Mr. Arthur Cates or to Mr. R. Phené Spiers, hon. secs. of the Conference Committee of this year, at the rooms of the Institute.

**CHRIST CHURCH CATHEDRAL COMMUNION PLATE.**—The collection of ancient communion plate is remarkably fine, but notably an alms desk, which is a magnificent specimen of chased work, with candlesticks, chalices, and patens to match, all bearing date 1778; also some massive flags and chalices—date, 1677 and 1683. The whole of the above have just been renovated by West and Son, silversmiths, of College-green.

**STATUE OF CHIEF JUSTICE WHITESIDE.**—A commission has been given to Mr. Albert Bruce Joy, of Bayswater, London, "to execute a statue of the late Chief Justice Whiteside to be placed in St. Patrick's Cathedral." Mr. Joy, who is a native of this country, has already executed the statue of Dr. Graves in the College of Physicians, the statue of Mr. Laird at Birkenhead, and a girl teaching a bird to fly in this year's exhibition of the Royal Hibernian Academy.

**NEW BRANCH BANK OF IRELAND.**—A new branch of the Bank of Ireland was opened this day at No. 13 North Wall-quay. It has been erected from the designs of the architect to the bank, Mr. S. Symes, of Dominick-street. It consists of three storeys; the material of the entire frontage is of Ballynocken granite, and presents a substantial appearance. The upper floors are arranged as residence for the manager, and are well laid out. The office is fitted with counters of Domingo mahogany, and the floor is tiled in a neat and sombre pattern. Mr. J. Cornack, of Talbot-street, was the contractor, and from a personal inspection we can say that he has carried out the contract with credit.

#### TENDERS.

For rebuilding Ballykilty House, Quin, County Clare, for John Blood, Esq. Mr. W. Fogerty, Architect, Dublin. Quantities supplied by the architect:—

|                               |        |   |   |
|-------------------------------|--------|---|---|
| Carroll, Ennis .. ..          | £2,278 | 2 | 6 |
| Ryan and Son, Limerick ..     | 2,084  | 0 | 0 |
| Cavanagh, Limerick (accepted) | 1,856  | 0 | 0 |

#### TO CORRESPONDENTS.

**CITY IMPROVEMENTS.**—"A CRITIC" asks—"Are the present filthy state of the streets, the foul condition of the Liffey, and the dead and moribund trees in Sackville-street specimens of our city improvements?" He had better ask the City Fathers, and particularly the members among them who are owners of some of the most tumble-down and unsanitary house property in Dublin.

**AN OLD BOOKSELLER.**—Your recollections would, no doubt, be interesting; but why not have communicated with the author sooner? Perhaps it is not yet too late to work the materials into a sequel.

**SANITAS.**—Several of the back streets and courts in the Liberties are in a deplorably dirty state, and the houses in a tumble-down condition. See our leading article in present issue.

**RECEIVED.**—An Assistant Surveyor (rather late).—J. B. (Belfast).—C. E. (thanks).—G. M. (London).—An Artist (yes).—R. A.—T. C.—Tolka.—M. D.—F. R., &c.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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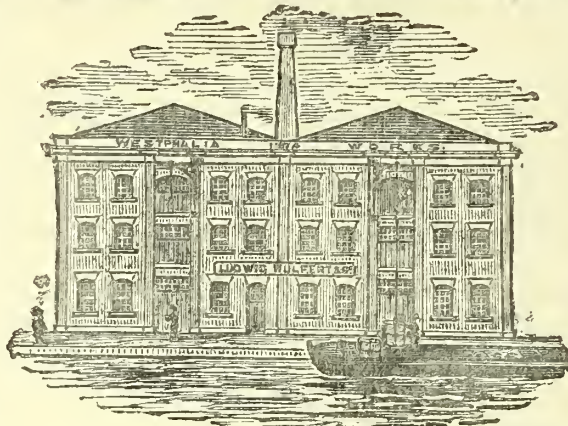
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Contents.

|   | Page |
|---|------|
| DOINGS IN QUEENSTOWN .. ..  | 143  |
| Irish Artisans and the Paris Exhibition .. ..                       | 144  |
| Ventilation and Sanitation at the new Synod Hall, High-street .. .. | 144  |
| Adversaria Hibernica—Literary and Technical .. ..                   | 145  |
| Sanitary and Unsanitary Agents—Street Trees .. ..                   | 146  |
| Provincial Notes—Sanitary and Sundry .. ..                          | 146  |
| The Royal Irish Academy .. ..                                       | 146  |
| Notes on the Early History of the Irish Stage .. ..                 | 149  |
| Indian Railway Bridges .. ..  | 150  |
| Municipal Items .. ..   | 151  |
| The Government and the Fine Arts .. ..                              | 151  |
| Steam Boilers for High Pressures .. ..                              | 152  |
| Lectures on Architecture .. ..                                      | 152  |
| Main Drainage of Rathmines and Pembroke .. ..                       | 153  |
| The Phonograph .. ..  | 154  |
| House Construction and Sanitary Science .. ..                       | 155  |
| The Copestown Limestone Quarries, Co. Cork .. ..                    | 155  |
| To Correspondents .. ..   | 155  |
| Home and Foreign Notes .. ..  | 156  |

THE IRISH BUILDER.

VOL. XX.—No. 442.

DOINGS IN QUEENSTOWN.



IN a run down to the ancient Cove of Cork, and a brief glance at matters in the town, we observed many evidences of progress, compared with what met our eyes when we first visited Queenstown several years since. Just now, trade and business in general is subject to the same depression and dulness as is being experienced in other towns in the three kingdoms for some months past. The season for visitors is now opening, and the first half of May has brought several welcome arrivals for the hotels and those making a livelihood out of furnished lodgings on the winding terraces, on the steep cliffs, or those on the lower levels of the sea. On the quays of Queenstown may still be seen the tide of emigration, flowing hither and thither, the outward bound apparently in an increasing number. The sight gives rise to many sad reflections, taking the mind back for thirty years at least to that drear Famine period, from which the oxodus first sprang with an intensity that continued for years. It is an ill luck, it is said, that blows nobody good, and out of the evil of continued emigration, Queenstown has for several years benefited, and is likely to still benefit. Irish emigrants have their many wants, while on their way from their peasant homes, or their homes in the inland towns to the port of embarkation. The dealers and shopkeepers of Queenstown

are the last persons the emigrants have transactions with in their native land, and, as a consequence, a considerable sum of money, in the aggregate, is expended in Queenstown during the year in supplying the sundry wants of emigrants, in food, lodging, clothing, and general outfitting.

There is little, if any, local industries in Queenstown at present, the great body of those engaged in business being shopkeepers and traders for supplying local wants and those connected with the shipping interests. As many and various vessels put in at the port, of course the town is benefited, and, to some extent, the supply of stores to warships and Government forts and depôts is drawn from Queenstown, or, through it, from Cork. The establishment of some local industries or manufactures, with a view to the future, would be most desirable; for a town that is so wholly dependent on fluctuating interests as Queenstown, is liable to suffer severely betimes from periodic depression. If we would throw out a hint to the local body of the town, we would say, Gentlemen, look to the future, possible and probable, wants of your town, as well as to its present wants; but do not, by any means, overlook its urgent wants—sanitary, social, and industrial.

Sanitarily speaking, Queenstown is capitally situated for making it a healthy resort, and keeping it so. Being situated on a rather steep decline, with a beautiful bay and harbour in its front, and an expanding country district in its rear, with sea and mountain breezes ever and anon mingling, there is nothing wanting but what a little exertion on the part of man can supply. If the town is only kept ordinarily clean by the removal of nuisances, and the providing of sufficient main or leading lines of sewers for receiving the discharge of the house drains, the remainder of the sanitary work will be light. The houses of the poor internally, particularly in the old quarters, are not in a good condition; and the drainage in these quarters, and the removal of some nuisances common to the localities, need a little more efficient supervision. A rainy day in Queenstown, with a swift downpour, acts as a good flushing agent on the steep gradients of the roads and intersecting terraces on the heights above the town, and at all times there is good ventilation, owing to the situation of the town, healthy ocean and inland currents being generally prevalent. It is only strict justice to say that the Town Commissioners of Queenstown are, as far as our observation and enquiries extended, endeavouring to do their duty, and are succeeding in doing it. Within the last few years they have attended to the house drainage in several of the old parts of the town, and at present where there are defects it is owing in part to the nature of the house property, the expiration of leases, and the demolition of this property will soon lead the way to the improvements that are needed.

Places of public accommodation are, to some extent, already provided in the leading thoroughfares of the town; and in this direction the glaring defects that existed some years ago in connection with shipping, and to the extreme hardships of emigrants, have been remedied. A few years ago, very little attention was paid in Queenstown by emigration agents to providing waiting rooms or sanitary requisites for the poor emigrants. Owing to many cases of drowning and bodies

washed ashore from time to time, a public morgue, near the shore, is a necessity as well as for ordinary cases. A coroner's court and a morgue could be combined,—thus supplying a double want, and getting rid at once of abuses that have long surrounded the holding of inquests.

Remarking, during our visit, that more cemetery space, or a new cemetery, was required for the growing necessities of the town, we were informed that the Town Commissioners have taken steps to supply the want, and have acquired some acres of ground for additional burial purposes.

Although Queenstown has expanded considerably during the last quarter of a century, the building business has seldom been rife, or afforded employment to any large number of hands. The new terraces of domestic dwellings have cropped up rather slowly than otherwise, each year, however, adding more or less to the number. Roomy, well-built houses on the heights of Queenstown, in good positions and with good views, let at high rents—indeed, we are of opinion that in several instances the rents are too high, and tend rather to the keeping away of would-be residents than to their encouragement. Landlords, or the owners of building land, we think, also stand much in their own light by not affording better facilities to those inclined to build, for honest speculative purposes, or for themselves. One or two local building contractors of Cork and Queenstown are at present engaged in erecting a number of villas for themselves or others, out and about the town.

Among the projected improvements in Queenstown is a new quay, at the cost of £30,000, and a new boat harbour, at £5,000. These works will be executed by a local contractor, and will afford employment to a number of local building workmen.

The principal building work in Queenstown at the present time is that of the new Catholic cathedral. For several years it has afforded constant employment to a large number of workmen, and we may add artists also, for both the plain chiselled work and the carving and statuary have been executed on the ground. The mason work executed at the cathedral is undeniably excellent,—no better can be witnessed anywhere. Several of the hands engaged on the work have in a manner been educated and made proficient in the practice of their craft while working in the masons' sheds and workshops under the very walls of the cathedral buildings. It ought to be a source of pleasure to both the Catholic clergy and laity that such work can be executed in Queenstown by native workmen. There have been few works—perhaps none—in Ireland heretofore in which all the sundry needs have been provided independent of the labour of outsiders in the distance, in the Irish capital, or in that of the sister kingdom, and on the continent. From foundation to roof-tree, the workmanship is thoroughly native in execution, and the materials, as far as was possible—stone, limo, and sand,—indigenous to the country, native limestone being used for the tracery work, opes, dressings, and Portland stone for the statuary, life-size figures, several of which are already executed and in their places on the top of the cathedral walls. It is not our intention to enter into architectural details in our present rather brief notes; and we must content ourselves in saying, in a general way, that the work, as far as we could observe it, is progressing most

satisfactorily. The walls are ready for the roof, and the timbers of the latter are being framed in the workshops at the building. The work and workmanship at the cathedral appear to have received an able supervision, no approach to negligent execution being observable. The work is certainly built for time, and not for a generation; and certain we are our great grandsons will be more proud of it than we are. Nothing less than some gigantic convulsion of nature can shake the foundations of the cathedral. To speak in the language of the church of which it is, or will be, a noble national monument when finished, the structure at Queenstown is truly "built upon a rock," and its mason work is as solid as its supporting cliff or base.

Over on the island of Haulbowline the Government dock and other works, being executed by convict labour, are proceeding rather slowly. We asked an old resident in Queenstown when did he think the works at Haulbowline would be finished? His answer was definite enough, for it terminated with the Day of Judgment—a rather long time in advance of our day.

The landing-stages by the water's edge at Queenstown have suffered severely from dry-rot and the ravages of sea worms and wood-boring insects, and are at present being replaced in their sheeting, and, in some instances, their supporting timbers. We are not aware whether the Harbour Commissioners are about adopting any method or process for securing the new or old timbers in future from destruction by dry-rot or insects. There are several methods open for experiment, some of which have been successful in different places. We would counsel the Harbour Commissioners (if they have not done so already) to seek professional advice, and try what can be done in securing a longer term of duration for their harbour timbers.

The meat, fish, and vegetable markets are fairly supplied throughout the town for the wants of the inhabitants, or, perhaps we should say, there is a supply for all who are able to pay the prices at all times current. In consequence of the influx of visitors in the summer season, and shipping demands, the prices of food are run up, and are often ten per cent. higher in Queenstown than in the inland towns. The poor and the working-classes resident in the town feel pinched at times to provide sufficiently for their ordinary wants.

*Re* building materials, we saw some very fairly made and durable bricks, the local outcome of the district, well suited for domestic buildings; but bricks, except for inside work, chimneys, &c., are sparsely used, in Queenstown sandstone being in abundance. Most of all the old and new houses are built of sandstone raised on the site of the houses. The villas and new terrace buildings have their sandstone rubble walls, faced with compo; but the majority of the old houses scattered over the town, inhabited by the poor and working-classes, have their walls externally rough, save what a coating of "dashing" or whitewash can effect. Indeed, many of the walls within are rough, bare, and cheerless enough; yet withal the people are wonderfully healthy.

Had we time to prolong our visit, we would have written more. Our object is not to decry but to assist the people; to tell the truth, as far as we have ascertained it by observation and inquiry, and by doing this independently, to lead to reform. Our brief

notes may have a sequel, but for the present our remarks are made in a kindly spirit, and tending, we hope, to lead to renewed efforts on the part of the Town Commissioners and others interested in the future of Queenstown, to make it worthy of itself, from its great natural advantages, and a little queen in itself, of healthy and prosperous watering places.

#### IRISH ARTISANS AND THE PARIS EXHIBITION.

THE proposal of sending a number of Irish artisans to see, examine, and report upon their own and kindred trades and the exhibits of each, is a project on which we have looked, from the very first, with favour; indeed, it is a movement which we can thoroughly commend, provided it is carried out efficiently, and that proper representatives are selected. Supposing that the representatives are skilled and intelligent working men—craftsmen capable of describing, in a practical manner, the exhibits and objects they examine, there is no reason why the results of their visit will not be attended with good results. Individually the artisans themselves will come home with enlarged ideas, for observation will enlighten them in various ways, as to modes and methods of working and processes of manufacture, not to be witnessed in the Irish capital, or, perhaps, anywhere in their native land. Whatever deputation is organized should, therefore, be well selected, and be composed of sensible, thoughtful, and thoroughly skilled men in their respective crafts, so that the reports they draw up may not be only readable but instructive and valuable. Apart from the special deputation facilities will exist for Irish artisans visiting the Paris Exhibition for their own pleasure and instruction. The manufacturing centres of England and Scotland are within easy access, and much may always be learned by a visit to these places on the part of workmen who are disposed to spend a week or fortnight in one or more of the chief cities and towns of the sister kingdom. A visit to Paris, however, will possess a charm for many Irish workmen, and those who proceed there intent on acquiring knowledge, as well as merely observing the public sights, will be sure to come home with enlarged ideas on things in general and particular. To building workmen, French methods of planning, construction, and decoration will be sure to interest much, and, perhaps, lead to new and desirable departures from old established methods of working at home.

Technical education in France has, for many years, in various departments of trade, made rapid advances. Workmen that can draw well and design well, as well as work efficiently, are not scarce. In Dublin the number of building workmen who can draw or "set out" their work in all its branches are few, and comparatively few are also those who understand plans of houses in all their details when they are set before them. We have for several years, in these columns, been impressing, not only on the minds of building workmen, but those of all other branches, the necessity of learning the principles of their trade and of acquiring a decent knowledge of drawing. Whatever drawbacks may have existed a quarter of a century ago in Dublin, at present there are few; for there are fair facilities for workmen acquiring the knowledge necessary to the

proper practice of their art and handicraft. It pains us to have to say that workmen in general in this city are most careless of availing themselves of their opportunities. At a very little trouble and cost classes can be constantly attended in our schools of art, and, by a little industry and perseverance, the foundation laid of what may prove, and is likely to prove, a valuable acquirement. From year to year, in this city, the majority of our workmen are content to plod along in the old grooves in which their fathers and grandfathers moved, while the very platforms they stand upon are being cut from under their feet. Old institutions are being sapped, old habits of thought and modes of workmanship cast aside; but some workmen amidst us will not realise the facts and prepare for the great changes that are taking place, and which often take place, to the surprise of thousands, leaving them high and dry, isolated and unfitted to earn a decent livelihood in the new state of society. If workmen will not move forward with the tide that is moving all around them, while they complacently sit unmoved by their own exertion, it need not be wondered that foreign workmen will be called on occasionally to displace them in the execution of sundry forms of skilled labour. In what we have written we are not saying anything to the depreciation of Irishmen, who are as capable of acquiring knowledge and conquering difficulties as other workmen, no matter of what country. We address the careless many, not the thoughtful few; for it is our earnest desire to reverse the present order of things, and, failing to make all our workmen thoughtful, succeed, at least, in adding greatly to the number of those who are moving in the right direction. We have often visited workshops and factories in England and Scotland where large numbers of Irish workmen were engaged, and, in many instances, we found them as capable of performing work, and as skilful as others. We have found highly-skilled and well-informed, and, indeed, well-read workmen, too, in Irish workshops; but we would like to increase their number, and lift them out of their present grooves. This can only be effected by rousing the negligent and careless to a sense of their position; and once they are truly conscious of their wants they will, no doubt, avail themselves of the facilities that at present exist for their advantage. Our Irish artisans need to be more sober, spend less in a useless way, and to have more time for the improvement of the mind. Technical or practical knowledge enlarges the understanding, and with the expansion of the intellect the hands acquire more cunning, to use an old and a very well understood term. When every workshop in Ireland becomes, in a manner, a normal school of art, Irish artisans need not fear to look small in the presence of any number of Paris or other exhibitors.

#### VENTILATION AND SANITATION AT THE NEW SYNOD HALL, HIGH-STREET.

In a report presented to the Synod from the Finance and Arrangement Committee we find the following:—"The committee had endeavoured to reduce the valuation of the Synod Hall for the purposes of taxation below £300, but without success. The ventilation of the Synod Hall being defective, the committee had recently obtained the advice of Mr. Street, and, acting upon his suggestion, they had had eight vertical tubes

with purifying chambers introduced from the adjoining lobbies, which they hoped would be found to improve [?] the ventilation."

Mr. T. Chamberlaine said there was a matter which he desired particularly to bring under notice. A caretaker in their employment had, he believed, lost his life in the discharge of his duty in consequence of having been placed in a very unwholesome and damp residence below stairs. Two of his children also had died. It was desirable to provide a small retiring allowance to his widow; but the Representative Body felt that they could not act in the matter without the authority of the Synod.

[There have been several complaints respecting this building and its belongings. Last year we learnt that the acoustic properties of the principal hall were defective; now we hear of the ventilation and the unwholesome residence provided for the caretaker. Perhaps it would have been as well that a more suitable site should have been chosen for a Synod Hall. We would not desire to be the medium of alarming the clergy and laity composing the Synod; but surely a glance at the wretched surroundings of the building is sufficient to inspire a sense of danger to the lives of those whose duty it is to sit within its walls for hours together. We hope the matter will soon receive attention in the proper quarter.—ED. I. B.]

#### ADVERSARIA HIBERNICA,

##### LITERARY AND TECHNICAL.

THE sanitarian and medical officer of health will find some statements to amuse and, perhaps, instruct him in Gerard Boate's "Natural History of Ireland," written in the seventeenth century. The state of medical science in that age in Great Britain was at a rather low ebb, and doctors, in general, were little better than quacks. They made many rash assertions, and broached theories on insufficient data. Stories were chronicled of remarkable cases of longevity, cures, and wonderful operations. The air of Ireland must, indeed, have been pure in Boate's time, and, if so, we would the air of our cities and towns at the present time were the same; but, with the advance of science, it is becoming difficult, without binding laws and regulations, to keep up a safe standard of public health. In his time, Boate speaks of the immunity from certain diseases, which he states "consisteth in the air, not in the bodies of the people." Here are his words:—"It is observable that this privilege of being free from several diseases doth not consist in any peculiar quality of the bodies of men, but proceedeth from some hidden property of the land and the air itself. This is made manifest two manner of ways—first, in that strangers coming into Ireland do partake of this same exemption, and as long as they continue there are as free from these evils, from which that climate is exempt, as the Irish themselves. Secondly, in that the natives born and brought up in Ireland, coming into other countries, are found subject unto those diseases as well as other people; and I have known several of them who being come hither into England have fallen into the quartan ague, and have as long and as badly been troubled with it as ordinarily any Englishman useth to be. And credible persons have affirmed unto me the same as Scotland—namely, that the quartan ague never have been seen there, the Scotsmen, nevertheless, in other countries are as obnoxious to it as any other people."

In our own personal experience we do not remember to have met with any cases of the ague arising from a residence in places in Ireland, though we have frequently met with cases in England, and particularly in the marsh lands on the coast of Essex, or by the River Thames on Canvey Island.

Boate says that in his day the quartan ague, the which is ordinary in England and in several parts of it, was utterly unknown in Ireland, and that cases of scurvy were also unknown. In speaking of the tertian ague he says it was formerly unknown in this country, but that some years previous to the time of his writing it had found access into this country. He states also that "the plague, which so often and so cruelly infected England, to say nothing of remoter countries, is wonderfully rare in Ireland, and hardly seen once in an age." The Annals of Ireland, we must say, furnish us with the occurrence of many plagues at different periods in Ireland; but it is difficult to say, at this date, what were their chief characteristics. What are now known as zymotic and preventable diseases, such as fever and small-pox epidemics, are nothing more than species of plague, and very disastrous plagues indeed. If with all our sanitary knowledge in these days we are unable to stamp out small-pox, typhus, or cholera, we can well excuse our predecessors, when we consider the state of their habitations, living, and surroundings. Cities and towns, some centuries since, were, of course, not so crowded, there were more open spaces, and intercourse with foreign countries or people was unfrequent. Few manufactures and noxious trades existed, consequently the air of our cities and towns was more pure.

In Boate's time, and indeed in our own early days, the disease known as the rickets, i.e. bow-legs, was very prevalent, but of late years it appears to be rapidly decreasing. To use our old author's words—"In Ireland this disease is wonderful rife now, but hath nothing near been so long known there as in England, either through the unskilfulness or neglect of the physicians (the most part whereof in both kingdoms to this day are ignorant, not only of the manner how to cure it, but even of the nature and property thereof) or that really it is new there and never before having been in Ireland, hath got footing in it only within these few years, through some strange revolution or constellation, or God's immediate sending; which kind of changes several times have befallen in divers countries, and in Ireland itself we have already shown some such matter in another sickness, namely the tertian ague. This evil being altogether incurable when it is gone too far, is hard enough to be cured even in the beginning, except it be carefully look'd unto, and use made of the best remedies; nevertheless this grief, as well as most others, hath its peculiar medicines, the which being applied betimes and with convenient care, do with God's blessing for the most part produce the effect desired."

Most people are aware of the remedies applied in our time for children bow-legged or suffering from the rickets. The practice of using splints is being altogether disused, and bathing with salt water, friction or rubbing applied. Wholesome air, exercise, and judicious feeding are far better remedies than any system of barbarous torture, of which the splint system, in the case of rickets at least, is a sample. If a young child is well cared it will increase in health and strength, and the case must be very bad indeed if the child's limbs are not as straight as they ought to be, before its fifth or sixth year. Rickets is said to be a sure sign of bodily weakness, but from our experience we have known young children having the rickets to grow up in bodily vigour and strength, and become some of the finest specimens of the human race.

It will, perhaps, interest building workmen to hear what Boate has to say of some building materials in his time in Ireland. A good and durable brick is still a desideratum in many parts of this country; and no reason exists to the contrary why as good bricks should not be made in Ireland as are made in the sister kingdom. The clay exists, and it is only in the preparation and in the manipulation that any deficiency exists. Here is what Boate has to say on the subject of bricks and brick clay:—"In every part of

Ireland there is found a kind of clay fit for to make bricks, and all sorts of potter's ware, although the Irish never had the wit or industry to make use of these two ends—yea, they have ever been so far from making any earthen vessels that even the use thereof hath been very rare among them, and to the most part unknown, not only before the coming of the English, but also since; yea, even to these very last times, although a great number of English potters in several parts of the land had set up their trade, so as all kind of earthenware was very common, and to be had at very easy rates. And as for the brick, they have been little used in Ireland, even among the English themselves, for a great while, but of late years they began to be very common, as well in the country as in the cities, especially Dublin, where all the new buildings (the which, not only in handsomeness but in number, do surpass the old), are all made of brick. But that which is made in Ireland, for the most part, is not so good as that of other countries—not so much for any unfitness in the clay itself as for the want of handling and preparing it aright," &c. &c.

Boate then goes on to describe the Irish method practised in his day, which was certainly rather primitive, but for the most part a counter-part of the practice in use in the early part of the present century. They commonly, in Boate's day, burned in the kiln two or three hundred thousand bricks at a time, which, counting all the then attendant charges, stood between six and eight shillings the thousand. Boate describes two methods practised in his time of burning lime in Ireland—the native, or ordinary method, and that in French kilns. It would appear that the latter system never became general, and for a time was almost disused, as the method was said to be more unprofitable than the former, and, as stated, more fuel was consumed. If Boate tells us the truth, we are afforded an explanation why so many of our national monuments have disappeared from off the soil in this country. He opens his section on lime and lime-burning with these words:—"All the lime in Ireland is made not of the shells of all sorts of shell-fish, as in Holland, and some other countries, but only of stone; and the grey limestone is very fit for it, especially when it is not newly come out of the quarry, but taken off old buildings." The italics are our own, and the words are suggestive of Vandalism and many demolitions for lime-burning purposes, paving the way for future architectural "restorations" that never could restore what was destroyed. It was, no doubt, a more profitable trade in some places in Ireland to pull down old castles and abbeys for lime-making than to quarry the limestone.

It has been stated in one or more works dealing with the local history and buildings of Dublin, that the architect of the Rotundo (Round Room) was a Mr. George Ensor. We have failed to find the name of George, but we have found that of John Ensor, who was a practising Dublin architect towards the close of the eighteenth century. In the publication mentioning the name of George Ensor, the writer of the notice was unable to point to any other building than the Rotundo as the work of Ensor. Assuming that there has been a mistake as to the Christian name, and that there has been only one architect of the name, we are able to credit John Ensor as the designer and builder of other works. In a note in Ferrar's "View of Dublin" (1796), it is stated that Merrion-square was begun in 1762 by Ralph Ward, and Ensor, who built considerably. Ensor lived, we find, to lay out Holles-street and erect Antrim House. In 1780, another Dublin architect-builder, Samuel Sproule, finished Holles-street and laid out the eastern side of Merrion-square and the two Mount-streets. As we write, we have not a copy of an old Dublin Directory of the last century by us; but, if our memory serves us aright, we think that in Wilson's Directory, Sproule will be found, for some years, a resident in

Holles-street and that Ensor lived in Charlotte-street, off Camden-street. Ralph Ward, if we are not astray, held, for some time, an appointment in connection with the Ordnance Department or the Board of Works. Sproule, it also appears, executed a perspective view of Merriam-square, which Viscount Fitzgibbon, the proprietor, presented to the king at his majesty's request. So many of our eighteenth-century builders in Dublin, as well as in other places, designed as well as built houses, it is difficult betimes to say in which works they were simply architects or builders, or both combined. The octagon building at Bellevue, the seat of the La-Touches, was erected by one Enoch Johnson. The Gothic dining-room, which was added in 1788, was the work of Francis Sandys, a native architect of note, long resident and practising in Dublin. Sandys designed several works, although he is now a much overlooked architect. He died at Bellevue in 1785. If we are not mistaken, Sandys left a son or a relative after his death, who continued for several years in the practice of his profession in Dublin. There were several architects of note a short time previously to the Union, who built extensively in this capital and outside of it, of whose names little is now heard. During the Irish Parliamentary period, the names of Gandon, Cooley, and Ivory stood out prominently; and for some years after the commencement of the present century, the names of Gandon and Johnston. The fame of the two last-named have eclipsed the light of many of their predecessors and successors, consequently a number of architectural stars were hidden by suns or planets of greater light and magnitude. H.

#### SANITARY AND UNSANITARY AGENTS.

##### STREET TREES.

WITHIN a few weeks we have witnessed the trees on the Thames Embankment, London, in Sackville-street, Dublin, and on the Grand Parade, Cork. Those upon the Embankment appear to be in a healthy, and, of course, thriving condition;—those in Dublin are withered and gone, as far as life is concerned, save, in two or three instances, and even the vegetating specimens are in a moribund condition. As to Cork, the trees there will, we think, succeed. In contrast with Dublin, they show signs of life in green foliage, and not rottenness and dirt. In several districts of London tree-planting in the public thoroughfares has been successful, though in a few instances, from want of care and proper preparation in the beginning, it has resulted in failure. The Corporation experiment in Sackville-street has been a miserable collapse. The street was wide and airy, and nothing was wanted to ensure success but entrusting the work to competent hands. The most ordinary day-labourer, working at farm work, would have shown more intelligence than had been manifested by those who undertook the planting of the trees in Sackville-street. Certain we are that any handy jobbing gardener, had he been entrusted with the work, would have taken steps to ensure the growth of the trees; but the men of meal and malt in the town council were interested in taking other steps, and we do not envy them their honours. The rusted guards and the rotten stems within them will be a pleasant sight for the illustrious visitors of the British Association. To be serious, we wish to apprise our Corporation of the fact (though perhaps the majority of the members do not care to know it) that the meeting of the Association will bring to Dublin some sanitary and social observers, who will make the blood of some people here tingle in their boots for very shame—that is, if they

have any remnant of shame left. The ulcerous sores, the chronic evils, the disgusting nuisances, and the wanton neglect and incapacity so long observable in this city, will again be subjected to analysis by more than one hand, and incapables will be made to see themselves as others see them. The few leading thoroughfares of Dublin will not any longer be made to serve as a screen to hide the moral leprosy and putrid cancers festering at their backs, and stretching by circuitous courses far and wide. We have public squares and public parks; we have open spaces, and within a short distance, north and south, we have the sea breezes; but in the very midst of this city there are tons upon tons of accumulated filth, and chronic hotbeds of disease, owing to evils we have over and over pointed out. If not all, at least the greater part of the evils under which Dublin labours, is owing to the criminal neglect of our Corporation.

#### PROVINCIAL NOTES—SANITARY AND SUNDRY.

MARYBOROUGH.—A well, called "Biddy's Well," in this town, is creating some local interest. We are informed by a contemporary that about twelve months ago the sanitary authority thought fit to close this well and erect a pump in the vicinity. The change did not please the people, who complained loudly of the pump water. During the week they have given expression to their dissatisfaction in a practical manner by tearing down the lining of the well—a brick partition. The sub-sanitary officer has made inquiries to discover the authors of the act, but without success. The pump was put up at a considerable cost, and is at present lying uselessly.

At a meeting of the town commissioners, cheques were passed for the gas bill, the expenses of the Local Government Board audit, &c. With respect to the bill of £5 from Mr. Esmond Clarke, C.E., for furnishing plans of the proposed improvement of the Town Hall, Mr. Fitzsimons said he did not see why the charge should not be paid if he was ordered to do the work. Mr. Vanston.—I have no objection to pay Mr. Clarke, but we cannot pay him. There is no order on our books for the plans. The Town Clerk said that was so. The Chairman said, when he asked Mr. Clarke to make the plans, it was clearly understood that the Commissioners were to pay him; but he agreed with Mr. Vanston that they could not pass the cheque, owing to the fatality which had occurred.

DUNDALK.—At a meeting of the guardians, Mr. O'Hagan asked the chairman what proportion of the sanitary officers' salaries is borne by the Government, and, having been answered that it is one-half, said that at an early period he would return to the subject, and move a resolution, the purport of which would be that if any epidemic should break out, and that it was found that sanitary arrangements in the union were not properly carried out, the sanitary officers should be criminally prosecuted, or in other words tried for their lives. Mr. O'Hagan's suggestion, as to the prosecution of the sanitary officers for sanitary neglect, was received with laughter, the members present thinking that the speaker was only speaking in an ironical manner.

MOUNTMELICK.—We learn that the first section of the new road to Mountmellick, which will run parallel to the old one at a much lower level, is progressing satisfactorily under the hands of Mr. Townsend, the county surveyor.

DROGHEDA.—At a meeting of the corporation of this town, a discussion arose as to the nuisance caused by smells, arising from the carrying on of noxious trades, and the bearing of the sanitary acts upon the same.

The particular nuisance complained of was that arising from chemical works; but Mr. Rice, a member, said he did not think they should confine their attention to this particular nuisance. He said he was given to understand that fever was raging in the Green Lanes, owing to the noxious stenches proceeding from the public sewers. Dr. Kelly condemned the custom, so general in almost every part of the town, of people making use of the surface sewers, and throwing refuse of all sorts, the intestines of fish and the like, out on the streets, instead of keeping them in their back yards. If some steps were not taken to prevent such things occurring during the summer, it was not at all improbable that a serious outbreak of fever might occur. The majority acquiesced in Dr. Kelly's suggestion that steps should be taken to prevent refuse being thrown on the streets, and it was ordered to carry this plan into effect for the future. It was also resolved, on the motion of Mr. Connolly, seconded by Mr. Leech, that the proposed sewerage in Magdalene-street be at once made. There appears to be several houses in the town of Drogheda without yards or water-closets.

#### THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy was held on Monday evening:

Sir ROBERT KANE (President of the Academy) in the chair.

Dr. E. W. Davy read a paper "On a new Chemical Test for Carbolic Acid, and its useful applications," the chief of which was, that it supplied the means of detecting the presence of 1 part carbolic acid in 100 parts of creosote, to adulterate which carbolic acid is frequently used.

The Lord Bishop of Limerick read a paper "On two Ancient Inscribed Monuments"; also one on an Ogham inscription on a stone which has been for a long time in the Academy. It had been found near Dingle, in the County Kerry, and he believed it recorded the name of a person who was mentioned in an ancient Irish pedigree—Aedhlogodh,—and who lived near the head of Dingle Bay in the early part, or, perhaps, nearer the middle of the sixth century. He said that these stones threw considerable light on some of the ancient Irish pedigrees. He confessed that some time ago he was very doubtful of the value of these ancient Irish pedigrees, but he was now inclined to look differently upon them, and he had no doubt that the time would come when historians and archaeologists would use these pedigrees in a scientific way, and show how they bear on the history of the country.

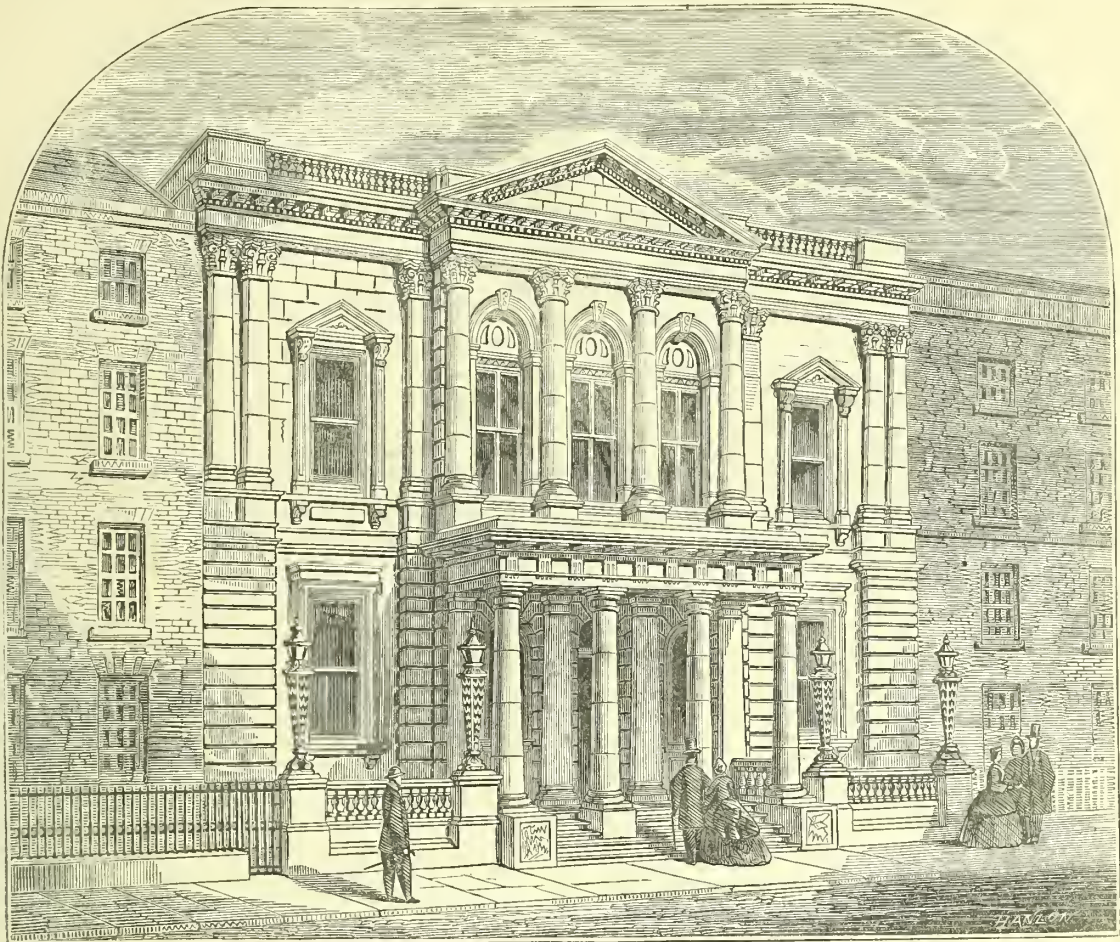
The Secretary read papers, by Mr. John Mallet, "On a certain Surface derived from Quadrics"; and "On an elementary proof that every Equation has a Root."

A paper by the Rev. William O'Dowling, "On Celtic Root Names in the Tyrol and Carinthia," was taken as read.

All the papers were referred to the Council for publication.

The following were elected members of the Academy:—Rev. John O'Reilly, C.C.; Geo. L. Cathcart, jun., F.T.C.D.; John Browne; Professor Robert Galloway; John Kane.

The President said he had great pleasure in making an announcement which he was sure the Academy would receive with a like feeling. The Council had had at several meetings under careful consideration the question of the awarding of Cunningham Medals to the authors of those literary and scientific works, whether published by members of the Academy or otherwise, that have appeared to them most worthy of recognition by this Academy, and after careful consideration, and on the report of the Committee of Science, and also of the Committees of Polite Literature and Antiquities, the Council had come to the resolution to present medals to George J. Aldwell; John Casey, LL.D., F.R.S.; Mr. Acland Smith, and Edward Dowden, LL.D. These medals would be presented at the next meeting of the Academy, on the 27th inst.



The Royal College of Physicians, Kildare-street.



NOTES ON THE EARLY HISTORY OF  
THE IRISH STAGE.\*

THE production of Cumberland's comedy of "The Brothers" gave rise to another contest between the rival managers of the two theatres, each straining his utmost to outrun the other. The race was so close that Smock-alley was only able to produce one clear night in advance of Crow-street. This play had not the success of the "West Indian" of the same author, but it had a run of ten or twelve nights at each house, and neither theatre profited much by its production. At the time desperate efforts were made at both theatres to secure public patronage and attract playgoers. Old plays were revived and several new ones introduced, with pantomimes of various kinds; novelties succeeded novelties; but still the theatres did not fill, and the public seemed to grow tired, at least for a while, with rivalries and theatrical representations altogether. The theatrical situation must, indeed, have been very bad when one who was well acquainted with the stage in Dublin at the time writes:—"Novelty had lost its charm, even the Russian dogs in a pantomime and the elephant introduced at Smock-alley in the Coronation in Henry VIII., in which 'the champion made his public entry in armour of burnished gold,' could not draw." The "Grecian Daughter," of Murphy, was announced at this period at both theatres,—a very unfavourable time, it must be said, for its production. The tragedy had been well received in London, and its merits were so much extolled that there was a desire to see it in Dublin. It was common to both theatres to announce new plays long before they could be produced, and it was so in the instance of the "Grecian Daughter," which was advertised up to the very morning of the night on which it was to be produced at Crow-street. It was to be acted for the benefit of the younger Sparks, but before evening an apology was made of the sudden illness of Sparks' wife (late Miss Ashmore), who was announced to play Euphrasia. This led to the postponement of the play. After several delays the "Grecian Daughter" was first performed at Smock-alley, on the 14th of May, for the benefit of Mrs. Ryder, who was the original Grecian Daughter of the piece in Ireland. About a fortnight after, Dawson produced the tragedy, for his own benefit, at Crow-street, when, as we read, "Mrs. Sparks gave an impression of this popular heroine with great truth of colouring and genuine touches of nature." Although the play of Murphy, on this occasion, on account of its production late in the season, did not prove very profitable to either theatre, it, at a later date in Dublin, brought large sums, through the acting of Barry and Mrs. Dancer.

We next find Wilkinson visiting this country from his head-quarters at York and Hull. He appeared on the Crow-street boards, and, as usual, was cordially received, the pieces selected for his re-appearance being Captain Ironsides in the "Brothers," and Major Sturgeon in the "Mayor of Garratt." Wilkinson's stay was very short—for about a month—during which he played, among other characters, Colonel Oldboy, Lord Ogleby, Shift, Smirk; and Mrs. Cole in the "Minor," Cadwallader in the "Author," the Commissary in his tragedy "A-la-Mode," and Colin McCleod. There is not much to record of the remainder of the season. Macklin concluded his engagement with "Sir Paul Plyant" and "Love a-la-Mode," and left for London. He brought with him, on his return, a young lady, a pupil of his own, Miss Leeson, whom he first introduced on the stage at Crow-street, in the preceding winter, in the character of Lady Townly. This young lady subsequently appeared in several of Macklin's pieces, and was afterwards known as Mrs. Lewis. She visited Dublin several times, and was attached to Covent Garden Theatre.

Another theatrical revolution is about to

take place in Dublin, and we are to witness Ryder as manager at Smock-alley, and at a later date with both theatres in his hands. The life and career of Ryder was full of events; as a manager he possessed a good deal of tact and energy, and as an actor he had great merit, and was many-sided. Speaking of the commencement of Ryder's managerial career at Smock-alley, Hitchcock thus writes:—"On the ruins of the present dramatic state of Smock-alley a new empire arose that flourished for several years, and in the beginning promised a permanency which it never attained. Mr. Ryder had long been justly considered as the animating spirit that gave life and motion to the theatre he upheld; it needed, therefore, but little preparation to dissolve the old government, now too feeble to act with vigour, and form a new community, which, by having so favourite an actor for their manager, gave every reasonable hope of success. Spurred on by ambition, unappalled by the numerous train of evils which had been recently experienced, and which are in some measure the general attendants on dramatic dominion, and not the least intimidated by the perils by which his predecessors perished, Mr. Ryder assumed the reins of theatrical power, and made every necessary arrangement his judgment and prudence could dictate. It must be confessed the times held forth many alluring inducements to Mr. Ryder to undertake so arduous and difficult a task as that of directing an Irish theatre. The reduced, distressed situation of the stage at Smock-alley, which could not be supported under its present difficulties; his being in the prime of life, conscious of being capable of sustaining by the strength of his own abilities a varied and extensive line of business; a great favourite with the public, by whom he was urged to the present undertaking; a tolerable knowledge of the theatrical world, which his late practice in that capacity in the country had improved and extended; these motives were more than sufficient to excite in him an ardent desire to commence as manager. Hope pictured to his warm imagination a long succession of visionary bliss, which he seldom tasted, and enjoyments which fell to the lot of few managers."

Immediately after taking possession of Smock-alley, Ryder put the theatre in thorough repair; embellishments were added, a better wardrobe provided, and a good company selected. As on former occasions when the Dublin theatres passed under new managers, actors and actresses changed sides, so we find Mrs. Sparks passing over to Smock-alley from the Crow-street company. In September, 1772, Smock-alley was opened with the comedy "She Would and She Would Not: or the Kind Imposter," preceded by a prologue. The cast of the characters was as follows:—Tripani, Mr. Ryder, his first appearance in that character; Don Phillip, Mr. Sparks, jun.; Octavia, Wilmot; Don Manuel, Isaac Sparks; Flora, Mrs. Durraven; Rosara, Mrs. Barry; Viletta, Mrs. Brown; Hypolita, Mrs. Sparks, jun., being her first appearance in that character. The above was followed by the piece of "The Virgin Unmasked"—Coupee, Ryder; Blister, Isaac Sparks; Quaver, Wilmot; Miss Lucy, Mrs. Sparks. An index hand pointed to a notice at the end of the bills that "the public might depend that the curtain will rise at half-past six precisely," and there was a postscript added, telling that "the house is fitted up and repaired in the most elegant manner, and will be lighted with wax; and, as Mr. Ryder has been at the expense of covering the benches of the pit with green cloth, he humbly hopes no person will stand on them. Ladies will be admitted into the pit as in the London theatres. The scenery and decorations are entirely new, painted by Messrs. Jolly and Bamford."

The last-named artist would appear to be Jonathan Bamford, a herald painter, residing at Hawkins-street towards the close of the last century. The opening performances proved acceptable, although the bill of fare

was modest; but as time advanced, under the new management Smock-alley was better patronised. The strength of the company at the commencement of Ryder's management will be seen from the following names: Ryder, Isaac Sparks, Sparks, jun.; Wilder, Dodd, Wilmot, Waker, Durraven, Owens, Stewart, Kane, Maher, Hallien, Brown, Read, Duffy, Neil, Garland, and Logan. Among the actresses the principal were Mrs. Sparks, Mrs. Brown, Mrs. Hawkins, Mrs. Barry, &c. The above list does not contain many performers of reputation, nevertheless it includes a few performers who reflected credit on the Dublin Stage, and who were equally good in tragedy as in comedy. Ryder's company soon grew stronger, and embraced for a while Mr. and Mrs. Jackson, and Mr. T. Jackson, a comedian of merit from the Bath theatre; Mr. Parker, from Edinburgh, who made his first appearance in Ben in "Love for Love, &c.," "Mr. Cartwright on the Musical Glasses," and others.

From the opening night of Smock-alley, Ryder had the whole city to himself, nothing being acted at Crow-street; and it may be presumed that the new manager lost no opportunity in strengthening his position. Dawson, seeing danger impending his fortunes at Crow-street, was not altogether an idle observer, but commenced preparations for contesting the field with his new rival. His difficulties were not small, but they were such that he was unable to open the Crow-street house until November 9th, when the "West Indian" and "Medea" were performed, with very indifferent success, and not pleasing prospects of encouragement. Dawson appears to have exerted himself to the utmost, and, perhaps, anticipating failure, was determined to fall with honour and credit as far as was possible. He engaged Macklin and Miss Leeson, and early in the season he brought forward Mr. King and Mrs. King from the York theatre. Hitchcock speaks most favourably of the abilities of both, and it will not be amiss to give his estimates:—"Mrs. King certainly possessed many requisites for the stage. Nature had bestowed on her a tall, commanding, and elegant figure, with a face capable of exhibiting every discrimination of the various passions of the drama; to these she added all the polished grace of action which a mind well informed could suggest. Her voice and manner were in a great measure accordant to her figure—strong and forcible, but devoid of those delicate touches of nature which Mrs. Barry had accustomed the Irish audience to. Her choice of a character was judicious. Euphrasia in the "Grecian Daughter," afforded her various opportunities of displaying her figure and powers to advantage. From her great reputation much was expected; and though she did not entirely answer that expectation, yet she proved a most valuable support, both in tragedy and comedy, to the cause she espoused, during the remainder of the season. Mondanc, Rosalind, Lady Townly, Viola, Sir Harry Wildair, Beatrice, &c., were amongst the many characters she performed. Mr. King's abilities, which were much more confined, lay chiefly in the line in which Mr. Lewis was so far superior, that few opportunities occurred of his performing."

Of King, however, we have already given contemporary opinions from different pens further back. After performing at Crow-street, King and Mrs. King formed part of Heaphy's company at Cork during the ensuing summer, after they returned to Wilkinson's theatre at York. They resided for several years afterwards at Lynn in Norfolk. After the departure of Mrs. King, Macklin and Miss Leeson supplied her place, but their attraction on that occasion was not great; novelty was preferred to ability—so changeable is public feeling. With the arrival of the new Lord Lieutenant in Ireland, hopes were raised which were to some extent gratified. Like other viceroys, before him and after, to render himself popular with the citizens of Dublin he visited the theatre weekly for some time.

\* See ante.

At Smock-alley, fortune appeared to favour Ryder, and he continued to flow gallantly and gaily with the stream. Wilks, the original Jessamy, after an absence of three years, came forward in his favourite character in the then popular opera, "The Irish Widow," which was being performed in London with much applause, was produced in the two Dublin theatres on the same night, but not with equal success. At Smock-alley Mrs. Spark's personation "gave such a captivating, elegant finished portrait of the Widow Brady as charmed the public and bore down all opposition." Meeting with a very indifferent reception at Crow-street, the piece was only performed a few nights, while at the former theatre it was acted for eighteen weeks on every Wednesday to full houses.

The contest between both theatres was keen for a brief period, but the end of Dawson's managerial career was fast approaching, and again and again we will have to present the same pictures of the Dublin stage of startling surprises, rapid uprisings, flashes of sunshine, and dissolving views.

#### INDIAN RAILWAY BRIDGES.\*

THE bridge over the Ravi at Lahore consisted of thirty-three spans of 90 ft. in the clear, and 97½ ft. from centre to centre of the piers. The piers were of brickwork, each founded on three brick cylinders, sunk 70 ft. below the lowest water-level. Eight vertical tie-bars were built into the brickwork. The piers were protected from scour by concrete blocks thrown round them. The girders were of the parallel flange type. The lattice-bars formed two series of triangles, inclined at 45°. The superstructure was designed to carry a footpath on the lower flange, and an asphalted cart roadway, flush with the railway, on the top. The cross girders carrying the railway were suspended in stirrups from the upper flange. The first operation was the erection of a temporary wooden trestle bridge, which was occasionally much damaged by floods, but was easily repaired. It served for material trains for four years. The bricks for the foundation cylinders were of three special forms. The lime was slightly hydraulic, and was made of the kunkur of the district. The mortar was composed of equal volumes of lime, brick-dust, and fine river sand. The concrete was made of broken waste brick and 42 per cent. of unground mortar. The excavation of the cylinders was effected principally by Bull's dredgers. Cylinders of brick, 12½ ft. in diameter, and of the same height, were sunk from 10 to 12 ft.; then a similar length was added and sunk; next a length of 25 ft. was added, and sunk usually without weighting. Finally, a length of 20 ft. was built, completing the 70 ft., which was sunk sometimes to 60 ft., when a load of 150 tons of rails commonly sufficed to complete the sinking. Among the tools used for excavating the material from the interior of the cylinders Fouracres' "spider" proved efficient. Whenever a cylinder showed a tendency to leave the perpendicular, it was corrected by shoring from the ground, and by passing a chain round, the two ends of which were anchored taut at a distance. Rails laid across the chain produced an efficient horizontal pull. The average progress with the large cylinders was 2 ft. a day of actual sinking. Half the girders were put together on the south bank and half on the north, and they were carried into place by two travelling gantry cranes. The floating of the girders for the spans over the main channel of the river was accomplished by four native barges, on which timber staging was erected.

The Alexandra Bridge was 9,300 ft. long and 100 ft. deep. The first brick was laid on the first of November, 1871. The first train crossed the bridge on the 23rd of December, 1875; and it was opened on the 27th

of January, 1876. In floods, the Chenab rose 11 ft. above low-water mark, and its width at Wuzerabad was 3½ miles. The mass of the water did not flow rapidly; but the main stream, corresponding to the fluctuating deep channel, rushed through with great velocity, in a serpentine direction. This was often nearly at right angles to the general course of the river when obstacles occurred. Under these circumstances the bed was driven before it. The depth of the main current was more than 50 ft., moving at a rate exceeding ten miles an hour. The ground for about half the space of 3½ miles between the banks was composed of river deposit. On this a massive embankment had been raised, for several years, to carry the Grand Trunk Road as far as possible across the river-bed, the rest of the way being over temporary bridges of boats at the varying channels. During four months a ferry was established. A back channel, called the Pulkoo Nullah, flowed for several miles parallel to the main river, and in high floods their united waters submerged the intervening country. The effect of the embankment was to dam up the body of comparatively still water, forming the bulk of the river, and to divert the swift moving diagonal current against the crumbling shores. Hence the Pulkoo developed into a deep navigable channel, 800 ft. wide. At Kuthola, on the northern shore of the Chenab, the river became wider by half a mile. The main current set against the proposed site of the northern abutment of the bridge, and the deepest water was close under the nearly vertical bank. The Trunk Road was gradually falling into the river, and a ferry had to be established at the Pulkoo. Thus, in the Wuzerabad Reach, the Chenab had become wide to an abnormal extent. The fine sand of the bed was ascertained to be about 65 ft. in depth, overlying clay of moderate consistency. The rapid current, moving from shore to shore, was likely not merely to attack the bridge piers in flank, but also to scour the ground from under them. Various works were undertaken to improve the site of the bridge. The first was to close the Wuzerabad navigable channel by an embankment three-quarters of a mile long. A second embankment extended from the southern abutment of the bridge to the Pulkoo Nullah, to prevent the water of the river pouring into the Wuzerabad channel during floods. A third work deflected the stream at right angles to the general alignment of the railway in a direct line through the bridge. A fourth main work, being a star-shaped spur of trees and stones, was to prevent the river cutting behind the abutments in the event of disaster to the upstream works. Several subsidiary works were executed of rough tree-spurs to catch floating sand, and to assist in turning the stream towards the centre of the river. The Chenab training works were carried out by September, 1872, at a cost of 4½ lakhs of rupees, and had since been maintained at a yearly cost of a-half lakh of rupees. The first design for the bridge was that it should consist of single well-piers, 12½ ft. in external diameter, sunk 40 ft., and carrying lattice-girders under the rails, 97½ ft. in length from centre to centre of the piers. But the high floods of the rainy season of 1871 led to the adoption of Power's three-well system, and to the wells being sunk 70 ft. The piers were 35 ft. long, 8 ft. 8 in. thick, with semicircular ends, standing on similar basements, 38 ft. long, supported on diminishing arches between the wells. Three were to be sunk 6 in. apart. The abutments were on fifteen wells, sunk to the same depth as the piers, and in two rows parallel to the central line. This change increased the quantity of brickwork originally proposed five or six times. At the close of the rainy season of 1871 the curbs of several of the piers were pitched. It was then determined to adopt Warren girders, and to have the rail level at the bottom; also to have sixty-four spans, 142 ft. from centre to centre, and the bridge was thus commenced. The

bridge over the Pulkoo back channel consisted of nine spans, 43½ ft. from centre to centre with piers of single well cylinders sunk into the clay substratum underlying the river bed. The girders were of plate iron, carrying the rails on the top. On account of the great length of the Chenab Bridge, two passing places were provided, by widening the structure for two spans, and making it stronger. The remainder of the paper was occupied with an account of the setting out of the bridge, of preparing the curbs for the wells, of building and sinking the wells and the dredging operations, and of placing a protection of stones or concrete blocks round the piers. With a view to assist the piers to resist side currents, no provision was made for the expansion of the girders in every second span, so that the piers were tied together in pairs by fixed bearings. During the flood season of 1873-74 a serious accident occurred. A great mass of protective material had been placed round the finished piers, presenting the appearance of a weir across the river; but owing to the want of sufficient weights, the work was not completed at the newest wells before all were submerged. A concatenation of causes led to the current of the river running parallel with the bridge. Ultimately a deep trench was scoured out along the face of the bridge for more than a mile in length, resulting in the up-stream and centre wells of three of the piers toppling over from insufficiency of base. As the sites of three piers were blocked, so that fresh wells could not be sunk in the same place, two of the spans of the bridge were modified to suit the altered circumstances. The total cost of the bridge, including the training works, was 65 lakhs of rupees.

The Jhelum Bridge was situated on the line of the Grand Trunk Road, the river being about 5,000 ft. wide. The bed was of sand, 15 to 20 ft. deep, overlying a thick stratum of boulders and shingle. The fall of the bed was 1 ft. per mile, and the approximate discharge of the river at high flood was 200,000 cubic feet per second; the maximum recorded surface-velocity being 8.66 ft. per second. The length of the bridge was 4,875 ft. between the abutments, with training works on the left bank. There were fifty spans of 90 ft. each, giving forty-nine piers and two abutments. The right abutment and the three contiguous piers were founded in a stratum of clay; all the other piers were founded in the boulder stratum. The foundations were brick cylinders, three in a line transverse to the bridge, a centre one, 12½ ft. in external diameter, and two flanking ones, each 10 ft. in diameter. The brickwork was built on a substantial wrought-iron curb, to which it was bonded by circular flat iron rings and vertical round iron tie-rods. Three rings were introduced in the 32-ft. length of brickwork, at intervals of 10 ft. and the tie-rods, starting from the curb, went through the whole length of the brickwork in the well. In the smaller wells there were eight rods, and nine in the larger wells. The rings were of flat iron, 3 ft. broad by five-sixteenths in. thick. The brickwork of the smaller wells was 2 ft. thick; that of the larger wells was 3½ ft. thick. It was composed of specially made radiating bricks, set in mortar, consisting of one part of stone lime, two parts of kunkur, and six parts of fine brick-dust, the whole well ground together. The wells were successfully sunk through artificial islands. They were filled with concrete and connected by small arches. The superstructure of the piers was 27½ ft. long, 7½ ft. wide, with semicircular cutwaters. They were carried up 21 ft. above low water. The abutments were founded on three wells, each 12½ ft. in diameter, and were similar to the piers, but flanked with longitudinal wing walls. Nearly nine wells were sunk per month. A spur of earth and boulders, 4,800 ft. in length, was made from the left abutment of the bridge to the high ground forming the left bank of the river, as a protection against the river getting in rear of the bridge abutment. Moreover, an

\* Papers read at Institution of Civil Engineers (London)—1. "The Ravi Bridge," by Mr. R. T. Mallet. 2. "The Alexandra Bridge, over the Chenab," by Mr. Lambert. 3. "The Jhelum Bridge," by Mr. F. M. Avera.

average amount of 13,467 cubic feet of boulders had been thrown round each of the piers. The boulders formed a local supply of material ready to be dropped into any holes scoured out around the piers, and gave support to the piers to resist the overturning action of the stream. The superstructure was composed of a pair of lattice-girders, connected on the top by an upper roadway of cross girders and rail bearers, covered by buckle and flat plates, braced on their under sides. This upper roadway carried the railway and two footways. There was a lower roadway for foot passengers and mules and ponies only. The total cost of the bridge, including the 'protective works, had been £139,502, or £28 11s. per lineal foot.

## MUNICIPAL MEMS.

### THE DRUMCONDRA TOWNSHIP BILL.

At the last meeting of the Corporation, the Town Clerk read a communication to the Lord Mayor from Messrs. Maxwell and Weldon, on behalf of All Hallows College and other institutions, petitioning against the water-rating clauses of the above bill, requesting that the Corporation would be good enough to direct one of their officers to produce before the committee on Tuesday, the original agreements under which All Hallows, St. Alphonsus Convent, Hampton Convent, the Christian Brothers (Belvidere), St. Patrick's College, and Clonliffe College are supplied with water. In another letter from Messrs. Maxwell and Weldon, they stated that they were advised that the proper officer to produce the books and documents is the Secretary of the Waterworks Committee.

The Lord Mayor explained that he had received the letter on Saturday; the matter was very pressing. He had consulted their law agent on the subject, and he might inform the House that the adoption of the request contained in the letter was in the interests of the citizens.

A lengthened discussion took place as to the advisability of acceding to Messrs. Maxwell and Weldon's request, some of the members holding that the documents should not be forwarded without consultation with the law agent, and without obtaining all the necessary particulars. It was ultimately resolved that the request be complied with, and that the secretary of the waterworks committee be directed to proceed to London with the necessary books and documents, at the expense of Messrs. Maxwell and Weldon; these documents and books to be produced only upon the consent and with the advice and under the control of the law agent.

### THE PURCHASE OF THE TRAMWAY LINES.

The Town Clerk also read a letter from Mr. Maurice Brooks, M.P., requesting the Lord Mayor to bring before the Council the question whether that body should exercise the powers vested in them under the various local tramway statutes of purchasing the tramways lines, &c. This power was vested in the council by the Act of 1871, which provided that the Corporation might purchase, at any time within eleven years, the tramways, on terms which, if not fixed by mutual agreement, shall be determined by arbitration, the *bona fide* value of the property being so ascertained in the first instance, and 30 per cent. be added in consideration of the goodwill, compulsory purchase, &c. Mr. Brooks further pointed out that the bad condition of the streets through which the tramways pass, owing to the neglect of the companies, calls for assimilation to the system of having control, which is working satisfactorily in other towns, where the pavement of the whole street is under one management; and that the inadequacy of the recent reduction of fares served to show the difference which exists between Dublin and those towns, such as Glasgow, &c., where the municipal authorities are the owners and lessors of the tramways. The letter was referred to the General Purposes Committee.

### STREET PAVING.

Mr. Mr'Dermott asked why a portion of the paving of Moore-street, which had been beautifully paved, at a cost of £8,000, had to be taken up before the paving had been fourteen days completed.

The Lord Mayor said that a water pipe had burst, and water pipes would burst as long as water runs.

Mr. Gill moved—

"That, considering the very great superiority of the new system of paving over the former system, it would be of great advantage to the city to bring the streets paved in the old style to as nearly as possible the same condition as the streets recently done; that picking out the sand or mud from between the stones to a depth of about three or four inches, filling the spaces with water-proofed grouting, as in the new system, would, it is believed, have this effect, at a very moderate cost; that Committee No. 1 be directed to examine into the practicability of this plan, and, if it is considered feasible, to get a small portion of some street so treated, in order that the expense may be accurately ascertained, and report the result to Council."

A letter was read from the Commissioners of the Dublin Metropolitan Police, complaining of the defective state of several lines of tramways through the city as being dangerous to horses, and likely to cause serious accidents. "Already," the letter continued, several horses have fallen, and lately one of the troop horses of this force slipped and fell on the quay, and was cut and injured." The letter further said:—"Indeed, if the tramroads are not kept in better order, the ordinary carriage traffic of the metropolis will become highly dangerous," and suggested that the Corporation should refer the matter to the city engineer.

Alderman Harris said the matter had been anticipated by the committee, and they had been week after week calling the attention of both companies to the dangerous state of the roadways on which there are trams. The letter was then referred to the General Purposes Committee.

### THE CITY ARCHITECT.

A letter from the late City Architect, Mr. John S. Butler, was read by the Town Clerk, tendering his resignation of the appointment he had held for the last eleven years. The letter as a whole is more of a personal than public nature, and it is unnecessary to reproduce it. It was moved at the meeting that the office of the City Architect, vacant by the resignation of Mr. Butler, be not filled pending the report of the General Purposes Committee on the subject.

### THE LIFFEY NUISANCE.

The Town Clerk read a letter from the Secretary of the Port and Docks Board, transmitting a copy of their engineer's report in reference to the Liffey nuisance. The report stated that two very offensive sewers open into the river close above Grattan-bridge, and one immediately below it, and pollute the foreshore not only at the projecting abutments of the bridge but all along Upper Ormond-quay, and the engineer doubted if any equivalent benefit would result from filling in the angles between the abutments and the quay walls. The loss would be considerable, and the area enclosed would be trifling compared with the remaining foreshore, which ships out to a much greater width than the projection of the abutments. It would no doubt be a desirable thing to bring out the line of walls so as to narrow the river and widen the quays, somewhat in the manner contemplated in the Main Drainage Act of 1871, but the expense of this would amount to several thousand pounds, and would require a fresh Act of Parliament. Any unusual effluvia at Carlisle-bridge during the late east winds were probably due to the central coffer drain at Beresford-place, where the lowest excavation overlying the rock had a very offensive smell indeed, and affected the eyes of the workmen in a singular manner, proving that portions of the deeper bed and soil of the river have arrived at a very polluted condition. This part of the work will

be finished this week, when the smell from the coffer dam will cease, and in order to remove any possible cause of complaint, directions have been given to take up material which the contractor may have dropped into the river at Carlisle-bridge.

The matter was referred to the Public Health Committee.

### SUNDRIES.

The following motion *re* tramways was moved by Alderman Harris:—

"Inasmuch as the Dublin Tramway Company and the Dublin Central Tramways Bills will be in Committee of the House of Commons on or after the 13th inst., and as the consent of this Corporation has been given to the scheme of the Dublin Central Tramway Company, on conditions favourable to the interests of the citizens, which will be lost if the Dublin Tramway Company succeed in getting their Bill, and which company, by obtaining a suspension of standing orders, succeeded in setting at defiance the want of consent of the Corporation as the local authority: Resolved—That the Council should authorise the Lord Mayor, and such other members of the Council as it thinks proper, to attend the committee for the purpose of supporting the privileges of the Corporation, and the interests of the citizens generally."

After some discussion, the resolution was adopted.

*Re* the paving of the streets, Alderman Harris moved that Cole's-lane, Guild-street, Redmond's-hill, and Wexford-street be omitted from the list of streets ordered to be paved by a former order of the council.

Alderman Meagher moved that the order be carried out as already passed.

Sir John Barrington having called attention to the fact that there was no house, the house was counted out.

During the meeting on Monday, a letter was read from Thomas H. Burke, Under Secretary, conveying the Lord Lieutenant's sanction of a retiring allowance of £100 to Mr. Edward Newman, late Inspector of Street Works.

## THE GOVERNMENT AND THE FINE ARTS.

At the anniversary banquet at the Royal Academy, Lord Beaconsfield, during the course of his address, made the following remarks, which are worthy of note:—"I never felt convinced that the Government of this country did on the whole do its duty to the fine arts as perhaps it ought to do. I know there are some who tell us that the influence of a Government upon the progress of the fine arts is nothing, and that it has no power of exercising any influence of the kind. There are also others who, while they admit that a government may exercise an influence on the cultivation of the fine arts, will tell you at the same time that it is an influence of a mischievous character. As far as the Government is concerned, it is a subject open to great controversy and criticism. It is very difficult to take any step with a view to fostering the fine arts that is likely to be successful. For example, if there is a public building of great importance, some temple of legislation or palace of justice to be erected, and if the Government think it a good occasion to apply to the artists of the country, and call upon them to compete for its adornment, the Government are almost immediately informed that their plans and conditions are really a job. If the work is accomplished, they are generally informed that they have only perpetrated a monument of bad taste. If the Government purchase a picture of the great masters of the past times, believing that it may be a medium and a source of inspiration to modern artists, they are told the day after the purchase that the picture is a copy; but if they don't purchase it they are told they have allowed an opportunity to slip which will never recur. But with all these discouraging circumstances we wish to favour the arts. I still adhere to an opinion formed in early life that practically to recognise the influence of the Fine Arts on the character and conduct of the nation is the act of a wise Government; and, acting on that conviction, I should be prepared to run some of those chances or mischances to which I have referred."

### STEAM BOILERS FOR HIGH PRESSURES.\*

In the discussion following a paper on "The Construction of Steam Boilers adapted for very high Pressures," read before the Institution of Naval Architects, Mr. McFarlane Gray compared the relative economy of present and former engines, showing that in former practice, the boiler pressure was 25 lbs. or 40 lbs. absolute pressure per square inch, yielding 6 h. p. for a certain quantity of coal; but that now with 65 lbs. boiler pressure, or 80 lbs. absolute pressure, for the same quantity of coal, the result was 8 h. p.; that was to say, the pressure had been multiplied by 2, and 2 added to the 6 h. p. And from this comparison and from calculation, Mr. Gray inferred that "the h. p. increased in arithmetical progression, and the pressure in geometrical progression," and that "it would require 1,280 lbs. on the square inch to double the present efficiency, even if that pressure could be carried without additional drawback." There was at present no proof that practical difficulties would reduce to so serious an extent the theoretical gain incidental to increased pressure and expansion. Assuming, however, that by increasing the present boiler pressure, and adopting suitable expansion, it would be possible to increase the economy only 20 per cent. The advantage at sea would be most important. No doubt could be thrown on the statement that boilers of the existing types, especially marine boilers, would not carry much higher pressures than they were now subjected to, even though the usual factor of safety might with propriety be reduced; the limited space allowable on board ship for boiler room, and the necessity of occupying that space in the most economical manner, left scarcely any choice as to the external size of each separate boiler, and the size being thus dictated, the pressure to be carried was necessarily limited by the possible thickness of the iron of the outer shell, and the means of riveting it. By an extension of the heating surface in relation to the grate surface, so that the temperature of the escaping gases might be reduced to a minimum, the evaporative economy of all boilers might be made nearly the same, but a boiler having favourable disposition of the surfaces would more readily be adapted to such reduction of the temperature of the escaping gases, and the maximum efficiency could accordingly be obtained in such a boiler with the least extension of the heating surface, and therefore with the least size and weight. On this ground alone it was believed that important economy might be obtained by the use of the water-tubes. Another important advantage incidental to the water-tube or sectional boiler, if well designed, was its facility for expansion and contraction under varying temperatures without undue strain upon the joints. It was well known that one of the greatest evils of the present cylindrical marine boiler was the wear and tear, and ultimate leakage of the seams of the shell, from its unequal expansion. There seemed little hope of removing this defect from the cylindrical boiler, but the sectional boiler was, in almost all cases, entirely free from it.

The report of the Boiler Committee, in allusion to the Perkins system, said: "The committee very much regret, in view of the further information collected by them on this subject, that difficulties should have interfered with the carrying out of their suggestion as to the trial of the tubulous system; and, after the further experience they have gained, it is still their opinion that the system should be fairly tested as soon as possible in sea-going ships of her Majesty's Navy, on land, and, if thought desirable, in steam pinnaces and cutters; boilers of the latter size being readily obtained on the plans referred to." The vital feature of the Perkins system was the continued use from

port to port of the same water, without leakage, and free from impurities likely to be deposited. It was admitted by Mr. Perkins that, in an engine working with a vacuum, portions of the tallow used in the stuffing-boxes of the piston rods would be sucked into the cylinder, and carried through to the boiler; and beyond this it was not easy to imagine that in large engines no internal lubrication would be required; should it be necessary on long voyages to apply oil or tallow, even in small quantities, deposit on the boilers must necessarily take place; and deposit upon boilers having little natural circulation must be a serious evil. If in a boiler there was rapid circulation of water, the tendency to deposit would be less, and if the construction of a boiler admitted of easy access for scaling mechanically, the deposit was of less importance; but it must in fairness be pointed out that the construction of the Perkins boiler was such as greatly to hinder scaling by mechanical means; and in his evidence before the committee, Mr. Perkins recommended periodical washings for removal of scale. It must be evident, however, that in the case of large deposit such a system of cleaning was not likely to be satisfactory, and, indeed, after a Perkins boiler had been so cleaned, it would be difficult to know if deposit still remained.

In connection with the question of weight, which had such an important bearing upon the policy of fitting tubulous boilers for marine purposes, there were one or two points demanding consideration. When comparing the total weight of machinery of different types, it was only fair to include the weight of coal necessary for a given number of days' consumption in each case, and, regarded in this light, the tubulous boiler by reason of its greater economy would have some advantage. Again, if economy of weight in connection with high pressure was desired, the grate surface might be so much enlarged in proportion to the heating surface, that abundant steam generation with small weight might be obtained, but at the cost of increased consumption. Of course this was so for all types of boilers; and it was a question of experience how to proportion the grate and heating surfaces to each other, that the escaping gases might be of the most suitable temperature.

An interesting discussion had recently taken place upon the comparative advantages of vertical and horizontal heating surfaces, especially as applied to high-pressure boilers. The question appeared to lie within very narrow limits. It was necessary to remember that the action of circulation was due to gravity alone, the steam bubbles tending to rise and the water to fall, and, where evaporating water was confined in a narrow tube, if that tube was placed in an exactly horizontal position the steam bubbles could only rise through the height of the diameter of the tube, and would accumulate at the upper side; if they did eventually have any circulation it would be borrowed from the currents ascending through a vertical, or approximately vertical, line; and the velocity of the circulation would be correspondingly reduced. On the other hand a vertical tube, unless properly supplied with water led through a separate downcast, might have no real circulation, but might be full of steam struggling upwards against water struggling downwards, and destroying circulation. It appeared then that the employment of tubes in horizontal, or nearly horizontal, positions would not give good results; but the use of tubes of properly proportioned diameter and length, in a position sufficiently inclined to allow the steam bubbles to ascend along the tube by gravity, and having afterwards an uninterrupted flow to the steam chest would be safe and efficient. Under all circumstances a boiler should possess separate upcasts for the newly-generated steam, and separate downcasts for the water to take its place. A point of equal importance was the free access to all parts of the boiler for the purpose of cleaning. From the nature of the case the tubulous boiler was difficult to arrange in

this respect, and some examples, after working well for a time, had failed from the large deposit of scale for which no ready means of removal were provided.

### LECTURES ON ARCHITECTURE.\*

(Continued from page 147.)

THE principal peculiarity of Elizabethan work, which distinguishes it from the Mediæval styles which it succeeded, is the admixture of classical details with general forms of a Gothic character. Thus the gable, an essentially Gothic feature, was retained, though masked and deprived of its importance, and broken up into forms more or less fantastic. Mullioned windows were still employed, but often in combination with pilasters, and with a complete change of mouldings.

In the interior, the hall and other arrangements of the Mediæval house were for a long time to be found as before; but they were supplemented by numerous additions and modifications. The latter were indeed so varied and fanciful that it is not easy to define with precision the forms of so-called Elizabethan art, for we may find in one example a roughness and vulgarity of execution almost deserving the title of barbarous, while in other buildings of the same style we can detect evidences of purity of taste, together with a beauty of detail, almost equal to classical examples of good Italian work.

There is little doubt that at this period there was a considerable influx into England of foreign workmen. Such an influx had indeed existed from as early a date as the Norman Conquest, but the movement had now acquired a greater importance from the increased and increasing wealth of England, and the comparatively settled and peaceful condition of the country, as contrasted with the general state of Europe. . . . .

If we consider Inigo Jones as the first architect of note who devoted himself to Classical architecture in England, we may observe that he was born when Palladio was verging on the grave; and that St. Peter's at Rome was designed about a century before the Classical Revival in England.

The Elizabethan method indicated the first attempt at change. It was, to a great extent, a fusion between the new and the old architecture, and in that character has not, perhaps, always received the attention and consideration to which it is entitled. This neglect has probably arisen, to a great extent, from the rude execution of much of its detail, and the badness of its representations of the human figure. Nevertheless, there are numerous examples of good taste, and delicate workmanship of ornament, and if the style had lasted long enough in the ascendant, there is no apparent reason why the defects of execution should not have been rectified.

The same may be said of Elizabethan sculpture. There can be no such thing as perfect architecture which does not include good sculpture. The Mediæval architects of the thirteenth and fourteenth centuries well understood this truth, and applied themselves to its recognition with great though partial success. The Greeks were, as we know, the great masters of plastic art, and it may be doubted whether the satisfactory application of sculpture, in its highest development, has ever been attained, apart from Classical ideas, and principles of design.

Now, the Elizabethan architects were ready to admit these principles. They did so, indeed, to a very great extent, in their enlarged niches, their pilasters decorated with arabesques, and their employment of ornament as a surface decoration. But as to sculpture of the human form, they were altogether deficient, and their execution lagged far behind their intention. Why was this? In the first place, theirs was an age of sudden development. Wealth and pros-

\* By Mr. J. F. Flannery. Read at Institution of Civil Engineers, London.

\* By Professor E. M. Barry. Third Lecture. Delivered at the Royal Academy, London.

perity had come upon the country rapidly, or, to quote a modern saying, by "leaps and bounds." There was much work to be done, and not a corresponding number of hands to do it. Hence grand ideas, but ill-finished workmanship.

Italian artists, like John of Padua, might direct, but they were obliged to trust to German, English, and Flemish workmen to carry out their ideas. Sculpture had not flourished in its highest forms in England during the later phases of Mediæval art. Carved ornament was indeed prominent enough, as, for example, the ever-present roses of the Tudor period, but figure sculpture had become strained, and even grotesque. These are also the faults which strike us in Elizabethan work. We find in it much to admire, if only the execution were equal to the design. Figures, bas-reliefs, and sculptures abound, and it is not the fault of the style if they are not good. Often grotesque and eccentric, the latter has yet a picturesque striking character, and is racy of the soil.

Such as it was, the Transitional style filled up the gap between the Late Tudor of King Henry VIII., and the revived Classicalism of Charles I., and has even continued to be employed down to the present time, passing through various phases, now leaning on Gothic, now on Classical traditions; still subsisting, indeed, with certain modifications, in that which has lately been termed Queen Anne architecture.

Another circumstance to be now specially noticed, is the presence in the same building of different materials. We have seen that, roughly speaking, in early Mediæval times, the private residences were of wood, and the castles, abbeys, and churches of stone. Not only so, but the construction was simple. Different trades, as, for example, that of the smith, might pride themselves on their technical skill; but their efforts were more or less isolated, and there was rarely to be seen that combination of labour, which some of the great Elizabethan structures exhibit. Thus, to the mason, bricklayer, and carpenter was now added the plasterer, whose work, both on wall and ceiling, is perhaps the most interesting peculiarity of the style.

It has been too much the custom of late years to depreciate this material, a reaction springing no doubt from its great and frequent abuse. No artist, however, will, I think, treat plaster with contempt, who is familiar with the intricate designs, and fine and often beautiful execution, of many an Elizabethan ceiling or frieze. The use of plaster ceilings was a natural consequence of the custom, which now became common, of building houses of several stories.

From the Norman house of a single floor, with its central uncovered atrium, we have advanced to the old English mansions of Burleigh, Crewe, Hatfield, or Longleat, with their numerous chambers, arranged in several floors, and built around open courts. The Mediæval artists followed a vertical system. Arches, gables, and pinnacles were alike aspiring, and the glory of the style were the towers and spires. House building, when it became necessary to employ several floors, naturally drifted into horizontalism, and so turned towards the trabeated systems of classical art.

Ceilings of large spans, sometimes coved and groined, but often altogether flat, came into use, and the plasterer was equal to the occasion of devising ornaments, of an original and pleasing nature, for the decoration of these flat and curved surfaces. Here, as in other cases, the construction called for the ornamentation, and the latter did not dictate to the former.

There is little trace, in the Elizabethan architecture, of the skill which raised the vaults and groinings, even of Tudor times. Elizabethan masonry is indeed often highly elaborate, as, for example, in the curious and ornamental scrolls, and fantastic gables and turrets, but the elaboration is, for the most part, of ornament only. The old energy of construction appears to have died

away, and its place to be imperfectly supplied by applied decoration.

As the mason lost in importance, the bricklayer advanced, the two working commonly together, in the combination of red brickwork and stone, so familiar to us in almost all parts of England. When stone was abundant, it still, of course, continued to be the material most used; but in other parts, as in the Eastern countries, brick houses exist which were erected from the fifteenth century; and in the latter, examples are to be found moulded bricks and terra cotta, which played an important part in certain types of Elizabethan architecture. These details were first commonly used in the reign of King Henry VIII., although there may be occasional instances of their earlier employment. There is a good example in Sutton Place, near Guildford, built by Sir Richard Sutton, about 1530. Here the mouldings of doorways and windows are of moulded brick, or terra cotta; and surface decoration abounds, all executed in the same material, which was now extensively employed, though not often as freely, as at Sutton Place.

For chimneys, brickwork was generally used, and the stacks of massed and clustered shafts soon became one of the most striking architectural features of the time. Springing, as they did, from domestic necessity, their importance was frankly recognised by the builders of the time. Sometimes square, sometimes circular, polygonal, or octagonal in plan, they were for the most part grouped together, and stood in continuous plinths. The capitals were, in some cases, single, and in others continuous, like the base, and they were frequently placed in internal walls.

There are numerous examples of such chimneys in which the moulded brickwork is of the most elaborate description, like the red brick details of Hampton Court Palace. It is evident that the designers of these works delighted in the use of moulded brick, and devoted themselves heartily to its study and manufacture. The custom waned, however, until, in modern times, it seemed to have been lost, and a tax having been placed upon bricks, the usual deadening influences of such fiscal interference set in, and progress and improvement seemed to be at an end.

Happily, this state of things is over. We have free trade in bricks, as far at least as the State is concerned; and the revival of interest in brick architecture, and the increased employment of moulded brickwork, is one of the most noticeable signs of the present time. So much so indeed, that it almost seems necessary to say a word of caution to enthusiasts, to induce them to remember that the legitimate use of moulded bricks is limited, and needs both taste and judgment. The same remark holds good with reference to terra cotta, which is indeed only another form of brickwork. Valuable as this material is, and readily as it will lend itself to artistic treatment, it cannot compete with masonry as regards solidity, or truth of line. It was only occasionally used by the Elizabethan builders, excepting for such ornamental and isolated structures as chimney shafts.

In cases where stone was not easily attainable, the walls were built of brick, frequently of red colour, with dressings of stone, the mullions of the windows, the string-courses, parapets and copings being constructed of the same material. The bricks were usually of smaller size than our regulation dimensions. They were not very regular in shape, and consequently the joints were large, with a good deal of mortar; but as the latter was usually good, the walls were not destitute of solidity and strength.

The bricklayers seem to have thought that the surface of their work needed ornament, for they were fond of using a few black bricks, with those of other colours. The latter were disposed so as to give the well-known diagonal patterns in the brick walls of their buildings. This treatment is undoubtedly pleasing, when not used in excess. It breaks the effect of monotony, which too

much plain surface is apt to produce. It is unobtrusive; and while it is an evidence of thought and care on the part of the builders, it does not, when sparingly employed, challenge attention or arrest the eye by startling contrast.

In some of our recent revivals, the use of parti-coloured brickwork has been common. It has respectable precedents in its favour, *only when used in moderation*. An idea, good in itself, is easily overdone, and the great danger which waits on imitators is exaggeration. It is thus with the use of the coloured lines, diapers, and patterns, which we so often see used in edifices of moderate dimensions, which cannot afford to trifle with the element of size. The effect of such a treatment is too often to minimise the building, and to weary the eye with a succession of tiresome and uninteresting geometrical puzzles. I would therefore caution the student against a too ready indulgence in this cheap decoration, and would counsel him to devote his first care to the design of the masses and proportions of his work. The introduction of coloured brickwork into Elizabethan buildings is seldom liable to such objections as I have named, and with due restraint it is a fair expedient in the hands of the architect.

(To be continued.)

#### MAIN DRAINAGE OF RATHMINES AND PEMBROKE.

THE Joint Main Drainage Board of these townships met on the 7th inst., and finally decided on accepting the tender of Mr. J. W. Stanford, to construct the main outfall and low level intercepting sewers, authorised by the Act of 1877, for the sum of £77,012 17s. 6d.—being within the engineer's estimate—notwithstanding that the works now contemplated are somewhat more extensive than originally intended—a result on which we congratulate the ratepayers of the townships presenting as it does a remarkable contrast to the proceedings connected with the Dublin Corporation Main Drainage project. We believe that we (*Express*) are correct in stating that Mr. Hassard, the Engineer for the Rathmines and Pembroke Main Drainage Works, has repeatedly asserted that an excellent main drainage scheme for the city of Dublin could be carried out for £300,000, and that in December, 1874, he and Mr. T. H. Falkiner, C.E., actually offered, as contractors, to construct a system of sewers for the drainage of the city and townships, and for the purification of the Liffey, for the sum £340,000, and further expressed their willingness that the proposed plans, estimates, and mode of dealing with the question should be subject to the opinion of Sir John Hawkshaw, on the understanding that if the scheme was adopted they were to be given the contract for carrying out the works at the above-named sum, or that if the Corporation preferred to seek for competitive tenders they were to be paid as compensation such sum as might be agreed on, or in the event of disagreement be determined by arbitration. To this communication, however, the Corporation did not extend a reply, and the Liffey has since remained in a foul and polluted condition; and of the nuisance likely to continue throughout the summer we have for the last ten days or so had positive and unmistakable evidence. We ask (now that our neighbours of the townships have succeeded in letting the contract for their project—which has received the commendation of Sir John Hawkshaw—within the engineer's estimate) would it not be well for the Corporation calmly to review the whole question? The river for many months in the year is positively unbearable, and sooner or later the work of purification must be undertaken. If a less ambitious and magnificent, but equally effective project as that of Sir Joseph Bazalgette is feasible, why not give the subject at least fair consideration?

## THE PHONOGRAPH.\*

THE science of acoustics has taken most marvellous strides within the last few months. We have already had in this room a description of the telephone itself. We have, in addition to that, another instrument that has created a great deal of sensation, and which I shall have the pleasure of bringing before you to-night. But besides the telephone and the phonograph, there are other wonders in store. There is an instrument—which has not yet come from the other side of the Atlantic—called the aerophone. The aerophone is an instrument that enables the voice to be heard at a distance of four miles. On the other hand, we have within the last few days produced in England an instrument that will be brought before the Royal Society to-morrow night, which is called the microphone. The microphone is an instrument which acts towards the ear as the microscope does to the eye. It will render evident to us sounds that are otherwise absolutely inaudible. I have heard myself the tramp of a little fly across a box with a tread almost as loud as that of a horse across a wooden bridge. There was a remarkable sound that accompanied the tramp of Mr. Fly, and a facetious friend of mine told me he thought the noise was occasioned by the neighing of the proboscis of the fly. Between the microphone on the one side and the aerophone on the other, we have, occupying a middle position, the instrument I have to bring before you to-night. All these instruments depend upon the operation of that marvellous force, if we may so call it, which we call sound. If I ring a bell, blow a musical instrument, or strike anything, what is it that has happened, which passing from me to everybody's ear in this room has produced that sensation which we call sound? I know you are all anxious to see the phonograph in operation, but I think it is just as well to make you acquainted shortly with the principles on which the phonograph works, for if you comprehend the principles, you will, to an infinitely greater extent, admire the instrument itself. So let us ask ourselves, what is this thing which we call sound? Sound of any kind is reducible to motion. The motion of matter is necessary and essential for the production of sound, and the motion of the air, the air that surrounds us and which we breathe, that bathes everybody in this room, is essential for the production of that operation which is now taking place in my throat. I am rather sorry to find that it is still daylight to a certain extent, but I am in hopes if the gas is put down I shall be able to give you a little notion of what sonorous vibration is.

Our notion of waves is derived from what we see upon the sea shore; we see there a motion of ascent and descent, accompanied by a motion of translation, but in this room, although at the present moment while I am speaking to you the air is chased and engraved in the most exquisite manner by the undulations I am imparting to it, all this is invisible to us, and it must so remain. All that we can do is to give you a faint conception of how this air acts. If you could see a tube of air, for instance, coming from my mouth to any one of your ears, then that tube of air, by every sound that is uttered, is thrown into vibration. But it is not a vibration of ascent and descent like the waves of the ocean, but it is an excursion to and fro, and between me and the end of the room, for every sound I utter there is in every particle of air an excursion to and fro. Now, notes or sounds vary in three particular ways.

In the first place, we have the pitch of a note. The pitch of a note is that which determines whether it shall be A, B, or C, or any other note of music; and the pitch of a note is the number of vibrations that are made per second, or, in other words, the length of the wave. So that the first property connected with notes is that of their

pitch, and their pitch depends upon the length of the sonorous wave.

The second property of sound is that of loudness. I can speak to you softly, I can speak to you loudly; you can hear the note of a piano gently played, you can press the pedal, and you can hear it loudly played. You can produce sounds that vary in intensity between great extremes, and the reason why one sound is greater than another is, that the amplitude of the excursion of particles of air are greater in one case than in the other; in other words, their velocity being different they hit the drum of the ear with greater force. In the same way, if you take a common smooth-bore gun which drives a ball with the initial velocity of a few feet, and you take an Armstrong gun, which drives the ball with a velocity of 1,500 ft., in the one case you have the ball making an indentation in a metal shield, while in the other case you have the ball sent right through the shield. So when you utter sounds softly, the tympanum of the ear is struck gently; and when you utter sounds loudly, the ear is struck with greater force. The loudness of sound is dependent upon the amplitude to and fro of the particles of air.

But there is a third property of sound, which is one of its principal properties, the one which distinguishes one voice from another, that distinguishes the note C on the violin from the same note on the piano; the cause of the difference between the sound of the drum and a cornet, and all the differences that occur between various sounds. All these differences are solely dependent upon the form in which the waves take their excursion to and fro. They may jerk to and fro, they may move gently forward and back again, with a high velocity or a low velocity, and so they may vary their mode of excursion to and fro in innumerable forms and produce various shades of intonation and articulation. So that we have, first of all, the pitch of a note, which depends, as I told you, on the length of the wave; secondly, the loudness of a note, which depends on the amplitude of the excursion; and, thirdly, the quality of a note, which depends upon the form of the wave.

I will endeavour to give you an idea of what a sonorous wave is. On this screen you will see a little spot of light. I am not sure that the light is visible to the whole of the room, but that little spot of light is supposed to represent a particle of air now in a state of quiescence in some part of this room. If we move the slide up and down, you will see it takes a motion backward and forward, which represents very roughly the movement to and fro of the particles of air between me and the end of the room. The next slide shows a portion of the supposititious tube of air, including several of these particles, and in this I have endeavoured to illustrate to you what takes place to form a wave. A wave means a succession of lines of compression and of rarefaction. Since there is no up and down movement like the waves of the sea, there is an excursion to and fro, which excursion results in a series of compressions and rarefactions. Now, if we move that slide up and down, you will see passing over it a series of waves, and those waves are simply a series of condensations and rarefactions. They are very erratic, and rather crude, and I should be very sorry indeed for anybody to imagine that what you see on the screen is an actual representation of what takes place in nature. Nature in all her laws is beautiful, but in this poor attempt to illustrate her laws, we have nothing but what is crude and rough. It is, however, an attempt to bring before you what is taking place in this room. That shows what takes place in only one line between my mouth and any ear in this room. But there are millions upon millions of particles going through the same operations of condensation and rarefaction, which you see. When the mind attempts to fix itself upon what takes place in this air, when you endeavour to picture what is going on in nature, you become lost in the effort.

I am now going to show you how matter itself vibrates when you put it in a line of these moving particles. Here is another rough attempt to show you what really occurs, but this is not an effort to induce you to exercise your imagination, but to show you actually what takes place when one speaks at an elastic medium. Now, Mr. Stroh has in front of him an india-rubber diaphragm, upon which is fixed a mirror, and this mirror will reflect upon the screen a spot of light. You will see that, as he sounds a note, the diaphragm vibrates, giving evidence of its vibration by the motion of the spot of light. If, while he sounds the note, he moves backwards and forwards, the spot of light is thrown across the screen, and you find there is an illustration of what I told you, that the note is simply dependent upon the number of vibrations per second; for, if he sounds a low note and then a high note, the difference in vibrations will be apparent to you.

I do not know whether those experiments were sufficient to illustrate to you two facts—first, that sound is produced by the vibration of the particles of air; and, secondly, that objects placed in these paths of vibrating air can themselves be vibrated. It is said that Lablache could sound a note so loud and strong that he could crack a tumbler; and in the Midland Counties there is a serjeant-major of a volunteer corps who is often brought into the room after mess to crack a tumbler in this way. So far as regards the production of sound.

Now, one or two words about the transmission of sound, before we come to the phonograph, which, doubtless, you are all anxious to see. The transmission of sound is twofold; we can have the mechanical transmission, and we can have the reproduction by electrical means. In the earliest days of civilisation, the ancient Greeks acquired the art of transmitting sound, and there were actors who addressed the audience through speaking trumpets. With these they marched up and down the stage, directing their speeches by this means to the furthest end of the theatre. I do not think in the present day we would stand Mr. Henry Irving reciting "To be, or not to be," through a speaking trumpet.

Amongst the proposals to transmit sound there is one very interesting record of that marvellous old gentleman, who lived some 200 years ago, Mr. Robert Hook, and invented what we know now as the toy telephone. He found that sounds could be transmitted round corners, and to a distance of a hundred yards, by means of diaphragms and wire. Wheatstone, within our memory, produced his telephone, which succeeded in transmitting from the lower to the regions—from the cellars of the Polytechnic to the galleries above—musical sounds with all their beauty and variety. We have all doubtless spent our shilling at the London Stereoscopic Company, in buying the toy telephone, which brings before us all the notions I have to bring before you.

The electrical transmission of sound was inaugurated in the year 1860 by a German of the name of Reiss, who showed how, by taking advantage of that vibrating disc, which Mr. Stroh just now showed you, to complete and make a circuit, you could make sounds be heard at a distance. Reiss succeeded in transmitting music, and Gray, of Chicago, succeeded in doing the same. The climax was gained when Professor Graham Bell produced his speaking telephone. About twelve months ago or, perhaps a little more than that, I do not believe there was a man in England who believed that it was possible to carry the voice a distance of fifty or even twenty miles. A little more than twelve months ago I did not believe it myself. I went over to America in the early part of last year, especially to inquire into those advances in telegraphy which our friends on the other side of the Atlantic had made, and when I went there I fully expected I should have the pleasure of exposing the telephone. I had not been there long before I met Pro-

\* By W. H. Preece. Read at ordinary meeting of the Society of Arts, on the 6th inst.

fessor Bell. I saw his telephone, and I became a convert. I may mention that it was my special pleasure to be the first person to bring this instrument to England; I exhibited at the meeting of the British Association at Plymouth, and gradually the fact has dawned upon every one, that it is possible to convey the human voice from one spot to another. Well, others have worked in this field. Edison has worked in the footsteps of Professor Bell, and as the outcome of it, he has produced the phonograph. Professor Hughes is the gentleman who has succeeded in making us hear the fly walk, and others are working in the same line. What I want you to clearly understand is this, that all these instruments, whether it be the microphone of Professor Hughes, the telephone of Professor Bell, the aerophone of Mr. Edison, or the interesting instrument behind me, the phonograph, they all depend on this one simple, wonderful fact, which, to my mind, is one of the greatest discoveries of this age—namely, that a mere vibrating diaphragm can give us all the articulation and all the variety and beauty of the human voice. I am sure there is scarcely a man in England who would have believed six months ago that it was possible for a diaphragm of this kind to reproduce the human voice. Certainly, men like Sir Charles Wheatstone and others, who devoted the best part of their lives to perfecting the speaking instrument, would have thought us stark staring mad if we had told them that the whole beauty of the human voice would ever be reproduced by a plain, simple diaphragm.

Now, in some of the instruments which I have mentioned to you, I have referred to the use of electricity and the use of magnetism, but in the phonograph, to which I am coming, we have neither electricity nor magnetism; and I want at once to disabuse your minds of the idea that there is any electricity used with it, because one of the first questions usually asked me is, Where is the magnet? There is nothing of the sort here; it is simply a mechanical contrivance. We have merely to insert a diaphragm in the paths of the sonorous vibrations emitted from our mouths to produce motion. Philosophers have taken advantage of this motion to record sound, and to produce an instrument called the phonograph.

(To be continued.)

## HOUSE-CONSTRUCTION AND SANITARY SCIENCE.

A PAPER on the subject of "The Reforms in House construction demanded by Sanitary Science," was read at the Society of Arts, London, on the 1st inst., by Dr. John Balbirnie. The author's paper dealt with the questions of the proper plan for a dwelling-house and its appurtenances; the ventilation of houses without cold draughts; the heating of houses without expensive or easily deranged mechanism; and the cooling of houses without risk or trouble in hot seasons and climates. The porch, lobby, vestibule, or entrance-hall should in all cases be well lighted, and should open directly to the winds of heaven. A well-placed, well lit, well-ventilated entrance-hall should be the prominent feature of a thoroughly sanitary residence. With regard to the staircase, a fundamental and baneful error of construction had been perpetuated, he was sorry to say, in the recent "improved industrial dwellings"—even the dwellings of Mr. Peabody's trust, of Sir Sydney Waterlow, and others. He advocated outside corridors or open galleries of access to the rows of apartments on each floor, reached from a spacious staircase through and through the block, made fire proof; or by staircases attached to the back. The best staircase in present use abutted upon the back wall of the house, and was directly in front of the main door, and at the end of the entrance-hall, and it is only required to be moved 7 ft. or 8 ft. further back from the wall to be in its right situation. Then it would give

space for a water-closet and a bath-room, and an intervening passage, with its window on either hand, effectually isolating these conveniences from the main body of the building. He recommended every second landing to be kept entirely open, for the purpose of forming a small conservatory or picture gallery; in either case to flood with light the landings and central halls of each storey. In order to remove vitiated and residual air from every part of a house there should be a central chimney, with a never-extinguished fire near its summit. The walls were proposed to be hollow, and along the vacancy in the walls, and the same in the floors, a continuous stream cooled or heated, or *au naturel*, was conducted from a chamber of supply in the basement, till it found its exit by the great chimney. In single, self-contained houses, on the "perpendicular" principle, the ordinary chimney breast, with its flues improved and added to, would afford a service of cold or warm air throughout a household. He described a smoke-consuming, heat-producing grate, projecting into the room, which he had found to succeed perfectly in his own house, and concluded by pointing out the sanitary features of a number of models with which his paper was illustrated.

In the course of an after-discussion, the chairman spoke highly of the designs of Dr. Balbirnie, as being useful to the architect of a new town or a large house, but said there were practical difficulties in the introduction of extensive sanitary improvements in existing houses. He considered the suggestion of the conservatory at the window on the second storey, and the invention of the warming and ventilating grate, as admirable. He recommended ventilation by tubes, descending from the roof, provided they were not carried down to the basement.

Dr. Balbirnie's reply to the remarks which had been made on his proposals brought the proceedings to a close.

[It is probable we shall reproduce *in extenso* the valuable paper by Dr. Balbirnie in our next issue.—ED. I. B.]

## THE COPESTOWN LIMESTONE QUARRIES, CO. CORK.

WITHIN three or four miles of the Mallow station, Co. Cork, at a place known as Copestown, there is an excellent quarry of limestone. A visit to this quarry, an examination of its stone, and a re-examination of it afterwards, in process of working for the erection of extensive civil and ecclesiastical buildings, convinced us that no better limestone need be desired. We have no pecuniary or commercial interest in this quarry, but we deem it right that Irish architects, engineers, and builders not already acquainted with the nature and quality of this limestone should be apprised of the fact. Blocks of stone of any length and size can be raised, and the quarry has beds yielding stones that can be utilized for any of the ordinary wants in building,—stone fit for ornamental or tracery work in columns, doors, windows, &c., and susceptible of a high degree of polish. As an instance of this, we may point to the plain and ornamental portions of the work at present executed at the new Catholic Cathedral now being erected at Queenstown. The bridge erected over the river at Mallow was built with Copestown quarry stone; and after several years' wear and tear, the stone looks as fresh and as compact to-day as it did when first worked. The huge grinding or pulverising circular stones used by the Ballincollig Powder Mills Company are of the stone of this quarry, and selected from the fact of its homogeneous texture, and from being entirely free from flints. To railway companies engaged in large works, to harbour

commissioners, and to building contractors in general, great advantages at present exist for obtaining thousands of tons of stone already quarried of the top beds, suited for various ordinary wants.

It may be stated here, for the information of those who may suppose that the Copestown quarry is a new enterprise, that fifty years or more have elapsed since it was first opened, and stone has been raised with little, if any, intermission ever since. Although we have travelled a large part of the province of Munster, as well as the other provinces, we have not met with a better bed of limestone. Sandstone is the principal strata in the Cork district, but in Copestown there singularly crops out an extensive local deposit of limestone, which, if its existence was more generally known, its valuable qualities would soon be appreciated by all engaged in building works, not alone in the south of Ireland but outside its borders. The owner of the quarry, Mr. John Cowhey, in whose possession it has been for half a century, has sundry orders in hand, and we have learned that important and extensive works will shortly be commenced in the Cork district, and that it is intended to use the Copestown limestone. Mr. Cowhey is at present, however, capable of supplying any amount of stone that may be required. The bottom beds in the quarry yield an admirable quality of stone—in fact black compact Irish marble, uniform in colour, and suited for ornamental work, external and internal. From pressure of time we have been obliged to condense our notes, but we intend shortly, and from time to time in future, to draw attention to this quarry, and to furnish further particulars on the subject noticed, of which we have now only been able to give a brief outline.

## TO CORRESPONDENTS.

NOTES re PRINTING AND PUBLISHING.—We are obliged to hold over our concluding "Notes" on this subject.

THE SANITARY CONDITION OF DUBLIN.—The opinion of "A Citizen" is the same as our own; and we think also with him that the article that appeared in last issue of our contemporary the *Builder* is a truthful one.

AN ARCHITECT (Cork).—If you append your name, we will publish your letter. The statements are very strong; and if they are to be effective of good, they ought to be supported by your name.

JERRY BUILDING IN DUBLIN.—A correspondent draws our attention to a number of new houses now being erected on the line of the South Circular-road, and localities branching off. We have examined some of these structures, and intend shortly to be very particular in our details. It is sufficient at present to say they are "built to sell—to let, and not to last."

REX (Great Brunswick-street).—Send us a pen-and-ink drawing, and we will endeavour to please you and others; but don't ask us to insert a long-winded puff in connection. Otherwise you are at liberty to send across Channel. "Cows in Connaught" they say, "have long horns," and perhaps Irish architectural drawings look big in the distance.

AN ARCHITECT.—The drawing, we hesitate not to say, is far from original. It is, to be sure, very Palladian, and only slightly altered from one in a well-known work on Architecture.

RECEIVED.—W. C. B.—J. C.—R. E.—A Craftsman.—C. E. (Belfast).—G. M. (London).—M. D.—H. R.—F. H. S.—R. H. A.—B. C., &c.

## HOME AND FOREIGN NOTES.

The operative masons of Edinburgh have agreed to accept the terms of the masters—viz., that the rate of wages be reduced from 9d. to 8d. per hour from the beginning of May, and no twelvemonths' notice given as formerly.

Two vessels laden with slates from Wales foundered last week within a short distance of each other, on the Meath coast. The crews were rescued by the coastguards; the vessels and their cargoes will be a total loss.

The new reredos at St. Martin's Church, Birmingham, has now been completed at a cost of £900, by Messrs. Farmer and Brindley, of London, under the superintendence of Mr. J. A. Chatwin. The work, which extends nearly the whole width of the sanctuary, is in fine-grained Scotch sandstone, divided into panels by green Connemara marble shafts.

MUSEUM OF SCIENCE AND ART.—Attendance of the public at the several departments for the week ending 11th May:—Library—Readers—Ladies, 129; gentlemen, 459. School of Art—Students, 401. Museum of Natural History—Daytime, 2,648. Agricultural Museum closed. Botanic Garden—Sunday, 5,200; week-days, 1,024.

**LONDON AMUSEMENTS.**—We learn that there are in London fifty-seven theatres, capable of holding 126,100 persons, and 415 music-halls, capable of holding 175,900 persons, making altogether 472 places, accommodating 302,000 persons. This includes the Crystal Palace and the Alexandra Palace.

**TECHNICAL EDUCATION.**—Technical classes in carpentry, bricklaying, masonry, and other building branches, are now being formed in London, and in the provinces in the sister kingdom. How long will it be before a similar movement is initiated in Dublin? Surely the artisans of the building trades in Dublin are capable of an effort. Could not a few connected with the large building workshops of the city combine and call a meeting at the Mechanics' Institute, for the formation of a technical class or classes in connection with their respective branches?

**CAUSES OF GAS EXPLOSIONS.**—Public attention has lately been called to some very serious accidents resulting from escapes of gas. It is well known that one fruitful source of gas escapes is the water-joint pendant. This old apparatus, as a gas manager very properly says, is ill-understood by the bulk of gas consumers, who seem to forget that water will evaporate, and very quickly too, in a heated room, so allowing the gas to escape in such quantity as to cause a serious explosion in a very short time. The evaporation of the water in the pendant, and the risk of accident arising therefrom, may be prevented by adopting the following simple and effectual remedy: Fill with water the water-cup at the top of the outer tube of the pendant to within an inch or two of the top, fill up the remainder with rape or sweet oil, and the pendant will then be safe, and require no attention in this respect for a lifetime. Pendants, if drawn down during the evening, should always be pushed up again before retiring for the night. Another sufferer believes that many of the accidents result from the continued use of pewter pipe, or "tripe," which is very cheap, compared with proper tin pipe or proper iron tube, and which should on no account be used. This cheap pipe, on being bent readily cracks, as it has not the tenacity of good tin pipe, and it can be pierced by a tin-tack. It melts at the low temperature of solder, and if there is a fire it opens at once a way for the gas to burn. The gasfitters, to do their work quickly, join by a soldered joint any required branches instead of putting in brass connecting pieces as T's and unions, and cracks frequently occur at these cheaply-made connections.—*Sanitary Record.*

**GAS METERS.**—It is an unpleasant fact that we are constantly gleaning from various sources facts which show that there is a general public opinion that gas meters are not all that they might be. No doubt the gas companies furnish the best apparatus in their power, but still people loudly protest against increased bills, without, so far as they can tell, corresponding consumption. It would seem that we have not yet arrived at a gas meter upon which the effects of cold or heat has no effect; and, as the machine is nearly always placed in the basement and seldom looked at, it stands to reason that it may get out of order to any extent in the intervals between the official visits. But, as the consumer is forbidden to meddle with his meter, even though he knows it to be debiting him with twice the amount of gas he is consuming, but must, very properly, first send in his report to the company and await their convenience, it seems only fair that such a company should employ every means in their power to keep the meters in working order, for the odds are that, if out of order, a meter will register against the consumer. In such a case, the company, naturally enough, insists upon its claim as established by the meter, and the consumer can only say that last year, and, perhaps, for five years previously, he consumed so many thousand feet less in the corresponding quarter, having the same burners in use and working the same hours. What can a judge do in such a case, save give judgment for the gas company, unless, indeed, the claim is so extravagant that it bears its refutation upon the face of it. All therefore depends upon the meter, and the meter generally depends upon the gas company, although consumers might take more interest in the matter than they do, and with profit to themselves. So many patents have been taken out for improved gas meters, that the hope may be fairly entertained that we shall at last combine the collective wisdom of the many into a practical result; and, indeed, it may be that this has already been done. The first we read of is the "Gauge or Rotative," with two or more divisions; then follow reciprocating gas holders, meters for registering the length of time the pipe or cock is open, by means of running glass globes, by moving diaphragm, by vibrating ditto, by the flow of gas regulated by a flame, by means of quadrants, &c.; by using naphtha, coal oil, &c., instead of water.

But it would be almost endless to quote the various inventions which the fertile brains of patentees have favoured us with on this head. Keenly alive to the fact that next to the purity of the gas, and often before it, the consumer looks to his gas bill, they have given particular attention to this branch of the subject, and have even given us the means of measuring gas by means of a pendulum and the use of a solution of salts. No doubt the time will come when the actual consumption of gas will be reduced to a certainty; but, perhaps, it is still more probable that within the present century gas will be superseded altogether, in favour of a cheaper and more effective light.

#### NOTICE.

*We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.*

*Correspondents should send their names and addresses, not necessarily for publication.*

*It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.*

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## Illustration.

NEW MAGDALEN ASYLUM AND LAUNDRY, AND  
PROPOSED CONVENT AND CHAPEL, KINGSTOWN.

## Contents.

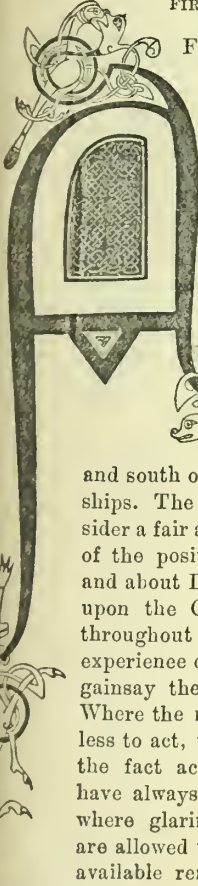
|  | Page |
|--|------|
| MUNICIPAL GOVERNMENT IN DUBLIN .. ..   | 157  |
| Notes on the Early History of the Irish Stage ..   | 158  |
| Iron Bridges of Large Spans .. ..  | 159  |
| Notes on the Rise and Progress of Printing and Publish-<br>ing in Ireland—Twenty-second Part—conclusion .. | 160  |
| New Laundry and Magdalen Asylum .. ..  | 163  |
| The late William Fogerty, Architect .. ..  | 163  |
| Lectures on Architecture .. ..   | 164  |
| The Phonograph .. ..   | 165  |
| The Royal Irish Academy .. ..  | 166  |
| River Pollution .. ..  | 166  |
| Books Received—Details of Christ Church Cathedral ..   | 166  |
| Maryborough Court House—A Ladder Wanted!! ..   | 166  |
| Sanitary Items .. ..   | 166  |
| To Correspondents .. ..  | 166  |
| Correspondence—Technical Education; the Corporation<br>and the Gas Works .. ..                             | 167  |
| Home and Foreign Notes .. ..   | 167  |
| Proposed "Restoration" of St. David's Church, Naas ..  | 168  |
| Adversaria Hibernica—Literary and Technical ..   | 168  |
| The Sanitary State of Ardee .. ..  | 169  |

## THE IRISH BUILDER.

VOL. XX.—No. 443.

MUNICIPAL GOVERNMENT IN  
DUBLIN.

## FIRST ARTICLE.



FEW weeks ago we devoted an article in illustration of phases of progress and decay in Dublin, principally in connection with her olden industrial centres in regard to tumble-down buildings and sanitary neglect. Since then a writer in our contemporary has furnished two papers on the sanitary and social aspects of the city, north

and south of the Liffey, and the townships. The papers alluded to we consider a fair and unexaggerated account of the position of sundry matters in and about Dublin. The blame thrown upon the Corporation is sustainable throughout; for no one who has a life experience of Dublin, as we have, can gainsay the statements in general. Where the municipal body are powerless to act, they are entitled to have the fact acknowledged, and this we have always endeavoured to do; but where glaring anomalies and abuses are allowed to continue, in the face of available remedies which are not applied, we do not think it is honest on the part of any public journalist to gloss over the evils.

Since the appearance of our own article and those in our contemporary, a pamphlet, written by Mr. John McEvoy, has reached our hands, entitled "Suggestions for Dublin Municipal Reform." The subject dealt with in this pamphlet, apart even from the well-known and consistent views of the writer, is entitled to every consideration. The pamphlet is pregnant with facts, and as far as we are able to judge, accurate in its figures. It touches on the past and present

Municipal Bodies, their ways and means, and it shows what was formerly done by other kindred bodies who had to do in part with the improvement of the city. In the purely political portion of the pamphlet very pertinent matters are discussed, which we do not care to enter upon, although it is impossible to avoid incidentally alluding to them.

We will commence our extracts by giving the opening paragraph of Mr. McEvoy's pamphlet:—"Plurality voting and household suffrage are not unknown to us in Dublin. Our poor law guardians are elected under the plurality system. Between our elected poor law guardians and our elected town councillors there is not much to choose. In many instances they are the same persons, and, comparing the whole of one with the whole of the other, in social position and intelligence they are about on a par. At the last poor law election there were 11 Conservatives and 25 Home Rulers or 'United Liberals' returned to our city ward—15 of the 36 are licensed vintners, and 3 are officers (two petty officers) of the Corporation."

There is food for thought in above and other extracts that will follow. Explanations on our part, in some instances, would not make the conclusion clearer. "If householders," continues Mr. McEvoy, "under £8 have been deprived of the franchise conferred on them in 1849, 'the champions of the people' in the town council are to blame. They promoted 'Improvements' Bills nearly every year. They could, if they pleased, have introduced into some one of those bills clauses amending the Collection of Rates Act, to place the local rating system in harmony with the intention of the Legislature, as plainly expressed in the 12 & 13 Vic., c. 85."

The party in the Dublin Municipal Council did not want household suffrage as a general system, thinks Mr. McEvoy; and in this we agree with him. If it was necessary to obtain an election for a particular nominee in a certain ward, household suffrage was called into play, therefore they only desired to use it as a reserve force, and under such circumstances it is availed of. It is perfect nonsense to suppose that the municipal representatives of Dublin, save a very small minority, are in favour of giving power to the working classes, and of seeing intelligent representatives of these classes sitting beside them in the town council. The working classes in Dublin, in the eyes of the largest number of the municipal representatives, are unfit for self-government, but quite fit to be rated and lived out of by selling them whiskey and beer, taking their clothes in pledge to enable them to indulge in the same, and letting them some of the most unsanitary and tumble-down house property in Dublin; for in all the above particulars we know members of the Dublin Corporation whom the cap will fit. How appropriate to our remarks, and how pertinent and truthful are not Mr. McEvoy's words—"Deplorable as is the condition of the houses and the surroundings of the houses occupied by our working classes, there is no evidence of any active wish for improvement. Men superior to their class are to be found here as elsewhere; but as a class our working men take no active interest in projects of social or sanitary reform of a practical character. Our 'trades' demonstrations and our 'monster' meetings are never for projects of self-im-

provement, or for what it is in the power of the people to effect by themselves and for themselves. In Dublin, as elsewhere, we must seek for the promoters of local improvements, and for the efficient and disinterested administration of local affairs among the classes above the necessity for daily continuous manual labour. But are the cultured of those classes at our disposal for this work; and if they are, would their services be acceptable?"

In Belfast Mr. McEvoy shows that the leading merchants can be elected under the present restricted franchise; and that, judging by the result of the extension of the parliamentary franchise of 1868, would continue to be elected under household suffrage. In this city matters are quite different: the leading merchants are not elected at present, nor would they under household suffrage. The educated and wealthy classes are excluded from seats in the Town Council, unless, indeed, in an odd instance, or where the candidate's influence and political opinions can be utilized betimes for good, or neutralized by a preponderating majority, when he is inclined to act independent of his dictators. It is scarcely necessary to reproduce again what we have often before reproduced in regard to municipal rates and salaries in Dublin, which are wantonly and cruelly excessive in their dimensions, and altogether out of proportion with the work to be done. Comparing Belfast with Dublin, it is found that our corporation has had 5s. 7d. in the pound from all its rateable property, to do what the Belfast Corporation had to do from 4s. 4d. on the valuations over £20, and 3s. 4d. from those under the same sum.

Mr. McEvoy, in alluding to the failure of scavenging in Dublin from the "want of funds,"—the excuse of the Town Council,—points out that it is not alleged by anybody that the scavenging of Belfast is unattended to. In the northern capital, the corporation have been able to expend £4,000 a-year on street-widening improvements—a thing unknown in Dublin since the days of the Wide Streets Commissioners, who spent far larger sums in this city on real and lasting improvements. The Liffey pollution is still a chronic nuisance, and little or nothing is done yearly to remedy that dangerous and ever-increasing nuisance. Works of paving, lighting, and cleaning, are done in Belfast in a systematic and a far better manner than in this city.

If we refer to the Local Government Auditor's reports, as instanced by Mr. McEvoy, we find, in regard to Belfast, there are no surcharges, no reported misapplications of fees or other corporate funds—common yearly occurrences in Dublin. Certainly in Belfast, the mayors, mansion house, and state officers do not swallow up thousands annually of the civic funds, for ornamental services, or no services at all; but we need not quote in detail the other preposterous appointments and salaries. Is it not a sad thing to find that, while in Dublin the Smithfield and Spitalfields markets, &c., are maintained at an annual loss, the good management of the public markets in Belfast yields a net income of £6,000? Our cattle market appears to be maintained solely for the benefit of sale-master-shareholders, for whom, mark ye, a dividend of 6 per cent. is guaranteed. But, not to run through all the items, the question may be summed up very fairly thus:—"In Belfast it is possible to carry out all the necessary local improvements, including

main drainage, domestic scavenging, streets, and artisans' dwellings improvements, without imposing taxation of a confiscatory character." Under our present municipal administration, this work is impossible.

We have pointed out on more than one occasion that the really substantial improvements accomplished or in course of process of accomplishment by the Dublin Port and Docks Board, as also to the work performed by the old Paving Board and the Wide Streets Commissioners in our early days in Dublin. Though in a measure going over the same ground again, we quote a pertinent extract from Mr. M'Evoy's pages:—

"The Dublin Port and Docks Board, it is admitted, have done good work within their proper territory—so good, that they were invited by the corporation itself to take up and carry out the corporation work. Bridge-building belongs to the local municipal authority;—in counties, to the grand jury—in cities, to the town council. In Dublin, in 1849, Dublin bridges were under the control of the City of Dublin Grand Jury. The powers and duties of the grand jury were in that year transferred to the corporation—which body, in 1852, allowed the Port and Docks Board to come in and discharge its duties as a bridge authority, and with the happiest results. Even the old Paving and Wide Streets Commissioners of Dublin, bad as their reputations, compare favourably with our present civic managers. The municipal commissioners of 1836 [see Report], speaking of the Paving Board of the period, say:—"The business appears to be well performed, but manifestly at an expense out of proportion to the whole levy [the official payments, including collections, formed upwards of the levy for the year 1833]." In his speech opening the case for the Improvement Bill of 1849, the Solicitor-General (Mr. Hatchell), said of the Paving Board:—"Generally speaking, these officers discharged their duties satisfactorily, as far as their powers enabled them. There were some complaints, but altogether the work of the board gave satisfaction." And of the Wide Street Commissioners, he said:—"They were taken from the ranks of the most respectable merchants of the city; they were unpaid, and no complaints had been made against them." Both the Royal Commissioners and the Solicitor-General, it may be observed, were making out a case for transferring the powers of these Boards who carried on their business without check, which the law has since imposed, to prevent misapplication of local funds. The right of representation by minorities is ignored in Dublin, and this state of matters is indefensible on its face, and cannot much longer be allowed to continue. The injustice is acknowledged by all, save partisans. Possibly—perhaps we might write probably—had the Act of 1793 been made compulsory, instead of being left to the discretion of the municipal representatives then in power, a different state of things would have existed in 1840. As a right, the Catholics were not admitted to seats in the corporation, though, from the former date, they were found in the old city guilds. When the Municipal Reform Act was passed, a war cry was sounded far and wide, and the municipal citadel was stormed. Very justly, a number of Catholics were returned, but, on the whole, neither by education nor training, were the majority who entered qualified for the offices they assumed.

We will not, however, enter too minutely into the political and religious phases that were developed in 1840-41, but we will say this much—that during the decade of 1841-51 the Catholic and Protestant representation in the municipal body of Dublin was far superior to what it has since been.

Year by year respectability, education, and general worth have declined in the municipal representation of Dublin, and faction has taken the place of practical capacity, and mere politics and religion have eclipsed true municipal duties. What a pitiable sight would be witnessed even to-morrow in Dublin if the candidates to municipal seats or the representatives were called upon to submit to an ordinary Civil Service Examination? We do not say that a large number of the members of the Dublin Corporation are a bit worse in education than the representatives of some of our townships or provincial local boards; but we do contend that the members of the chief municipal body in the country should be educated and experienced gentlemen, and this they could be, no matter what might be their respective trades or professions. Good breeding, toleration, and business capacity is at a discount in the municipal body of Dublin, and hence we have low cunning, jobbery, incapacity, a costly system of local government and a plague-ridden city. Sufficient for to-day is the evil thereof; but other illustrations will follow in due time.

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

ONE hundred years ago and later, with Essex Bridge acting as the chief connecting link between the north and south city, Dublin presented a different sight from that which it does in our own day. The passenger and vehicular traffic was to a great extent continued over the old Bridge between Church-street and Bridge-street, but the fashionable radial artery was the line of Capel-street leading across the Liffey to Parliament-street, and thence diverging at the Royal Exchange to the Castle and Castle-street on the right, and Dame-street and College-green on the left. Fishamble-street was a street of opulent merchants and traders, and Smock-alley, at its base under the very shadow of the Castle walls, though not a very odorous locality, was a very populous and business one. When Carlisle Bridge was erected in 1791, the line of fashionable vehicles got a new route, and gradually further a-field on both sides down the river in the direction of the new northern and southern townships along the bay, and for some distance inwards.

When one looks back on the growth of the city from the middle of the eighteenth century and the decline of the old industrial centre of the capital, no surprise need be felt at the theatres moving in the direction of the newer portions of the city. Werburgh-street and Rainsford-street gave way to Fishamble-street and Smock-alley; Capel-street and Smock-alley to Crow-street; and the latter in turn to Hawkins-street. Smock-alley Theatre, however, had a long life, and a tenacious one, and the last quarter of a century of its existence was eventful. Perhaps among all the actors and managers which walked its boards none was more resolute or energetic than Ryder. In the contest between Dawson and the former—in which the latter was worsted, and was forced to strike his colours in Crow-street, giving way to his rival—Ryder displayed extraordinary industry, activity, and genius. Good actors and tragedies were presented at Smock-alley, well supported by Sheridan, Jackson, and Ryder himself, who

was accounted at the time "the most general actor in tragedy, comedy, opera, and farce living." Added to the above representatives there were—Mrs. Fitzhenry, Mrs. Jackson, and Mrs. Sparks, who were considered leading actresses at the time. Ryder revived a number of old pieces and presented several new ones, and by his untiring industry conquered favour and public patronage.

Among the plays produced at Smock-alley at the date of which we are writing, Hitchcock mentions "A new comic opera called the 'Milesian,' written by a Mr. M'Dermot, formerly a breeches maker (Jones as a bricklayer), but at present surveyor of Dunleary, was at this time produced; but though it was well acted, yet partly from the author being unpopular, it was obliged to be laid aside after the fourth or fifth night." The above was followed by a comedy called the "South Briton," the production of a lady; but it did not meet any greater success than the preceding.

In the latter end of April, 1773, Goldsmith's comedy of "She Stoops to Conquer," was brought out at both of the Dublin theatres—Crow-street leading by a day; but the play on this occasion had an indifferent success. A young literary gentleman, known to the public under the *nom de plume* of Courtney Melmoth, made at this period his first appearance on the boards of Smock-alley. The real name of the young aspirant was Pratt, and the part he chose for the occasion was Mark Anthony in "All for Love," preceded by a prologue of his own composition, spoken by Ryder. Pratt's reception was, we learn, flattering, and in a few nights he repeated the part; and during the remainder of the season acted Publius Horatius in the "Roman Father," Lusigoran in "Zara," Lord Salisbury in "Jaffier," and some other characters. Pratt's success on the stage, however, was not commensurate with the reputation he had otherwise obtained at the time by his literary productions. In person, this Pratt, or Courtney Melmoth, is described as "tall and genteel, his deportment easy, and that from his education and knowledge he could not but be a sensible actor, yet he wanted power and force." At his benefit Pratt introduced his wife, himself taking the part of Castalio in the "Orphan," and she that of Monimia. The lady is described at the period as being "then in the bloom of life, a beautiful figure, with a remarkably sweet voice." She acted her part well, met with applause, and gave promise of obtaining a good theatrical reputation.

At the close of the season at Smock-alley, Melmoth led a campaign to Drogheda, where he erected a theatre capable, we are told, of bringing in forty pounds a night when full. The little theatre in Drogheda was opened with the "Merchant of Venice," in which he personated Shylock, and his wife, Portia. After a campaign of four months, which, unfortunately, did not prove a successful one, Melmoth gave up the rôle of theatrical manager, and with it all idea of continuing on the stage. A feature perhaps deserves to be noticed in connection with viceregal patronage in 1773. The Crow-street house, although the Theatre Royal at the time, and according to precedent entitled to every mark of viceregal favour, did not receive the whole attention of the viceroy or his household. Ryder had so well succeeded in catering for the public entertainment and winning to his side a number of influential friends that the Lord Lieutenant several times was found honouring Smock-alley with his presence, particularly on nights when Ryder played Sir John Restless, and when Sheridan's "Hamlet" and Mrs. Sparks's "Irish Widow" were presented. The month of May ushered in once more the old pet of the public, Miss Catley, who had been absent from Dublin for the three previous years. She pleased as formerly, playing Rosetta three times, Polly once, taking her benefit and finishing with Euphrosine in "Comus." The prolonged campaign at Smock-alley ended with success, gratifying alike to the manager, the players, and the public, and the month of June

\* See ante.

brought from London to Dublin Mr. and Mrs. Barry and Mr. Francis Aicken.

Some little delay took place, owing to disputes, ere Dawson relinquished Crow-street. For a few nights, the above-mentioned performers had to play at Smock-alley. Dawson appears, according to the statement of Hitchcock, to have been "unfairly and rather cruelly treated" in the matter that gave rise to the disputes, and his managerial career at the Theatre Royal was ended. The season concluded at Crow-street in July, whither the company alluded to removed on Dawson's departure.

Ere the beginning of the next season, Lewis, who was considered a capital actor, left Dublin. He appears to have been warmly attached to Dawson, and this attachment, according to Hitchcock, "had hitherto prevented his looking forward to that situation which his merit so highly entitled him to. Finding at length that he was not likely any longer to profit by his assistance, listened to the proposals and accepted of terms from Covent-garden."

Lewis made his first appearance at Covent-garden in the character of Belcour, in the "West Indian" on October 15th, 1773. The following is a London newspaper critique of the day following his first appearance at Covent-garden Theatre:—"Last night was performed at the Theatre Royal, Covent-garden, the comedy of the 'West Indian,' Belcour by Mr. Lewis, from Dublin, being his first appearance on this stage. On his first appearance the agreeableness of his figure and the vivacity of his manner obtained for him that applause which an English audience is ever ready to bestow on the efforts of genius. Animated, therefore, by his reception, it took off in a great measure that embarrassment which too generally clogs the powers of first appearances, and left us more at liberty to examine his pretensions to public favour. His person we may pronounce to be a good stage figure, rather above the middle size, his voice clear, articulate, and commanding, his deportment graceful and easy. As the part of Belcour demands great vivacity and spirit, Mr. Lewis filled the whole of it with propriety, judiciously steering between the pertness of the coxcomb and the dapper manners of low comedy; so that on the whole we may venture to congratulate the town upon the acquisition of an actor who seems to be so able a successor to Mr. O'Brien in the walk of genteel comedy."

The ill success of Dawson rendered the field quite clear, for some time at least, to Ryder, who prepared to strengthen his position. Some few arrangements were made at Smock-alley, and the theatre was opened on the 27th of September with Goldsmith's comedy, "She Stoops to Conquer," and "The Miller of Mansfield." The favour of the preceding seasons was largely increased in the new one, and Ryder was cheered to find himself well supported and encouraged to make renewed efforts. Goldsmith's play had a far better success than on its previous production, as it was brought out with greater care. It was played once a week. "Lionel" and the "Irish Widow" had a popular run for some time, and continued to please whenever put upon the stage. Early in the season appeared a Mr. and Mrs. Miel, of whom dramatic annals do not say much. They were English visitants from the Norwich Theatre Royal, and their first appearance on the Dublin boards were respectively in Archer in the "Stratagem," and Diana in "Lionel." Subsequently, Miel became manager of a company which visited Shrewsbury, Gloucester, Wolverhampton, and other English towns. Artaxerxes we are told, was revived at Smock-alley at this period for the purpose of introducing Mrs. Pinto, formerly Miss Brent, but who had been absent from Ireland for eleven years. She personated Mandane; Mr. Pinto, her husband, led the band; but Mrs. Pinto, notwithstanding her former success in this country, ceased to attract, and seldom played during the season. Hitchcock's comedy of the "Macaroni" had a run of a few nights, but we will let the author himself tell of its sur-

roundings:—"The Comedy of the Macaroni, which I had written at York in the summer of 1772, when I had very little knowledge of the drama, but from its, at that time, popular title, and a few other happy circumstances, met with remarkable success in most of the provincial theatres in England, was at this time brought forward, and performed a few nights. Whether from the want of merit or name (never having been played in London), or, perhaps, from both combined, it was soon laid aside, to make room for more popular and deserving pieces."

Ryder next brought over Foote in November, and the popular comedian was accompanied by Mrs. Jewell, his then principal actress, also by Mrs. Williams. They opened in the "Maid of Bath," a piece not previously acted in Ireland. The piece was repeated, but the engagement of the three did not add much to the receipts of the treasury. Foote acted through a round of his characters, but, save at his benefit, the houses were not good ones. An actor named Fleetwood, from the Haymarket Theatre, next made his appearance in "Tancred." We read of this gentleman that he was of good family and connections, and that he had been previously for some years in the army, where he dissipated a small fortune. He embraced the stage, and for the short time he was before the public, had a fair success. Fleetwood played a variety of characters in Dublin, principally in tragedy. At the end of the season at Smock-alley, he secured an engagement at Liverpool, where he spent the next winter. He is next found at York; Theatre, under Tate Wilkinson, where we are told he experienced much kindness. In the last-named place, his health began to decline, and in two years afterwards he died at Leeds, "esteemed and regretted," as the obituary runs.

Dawson, though dethroned at Crow-street, was not crushed, and possessed sufficient courage to rally his forces for another contest at the new theatre in Capel-street. Ryder foreseeing a possible danger to his interests, prepared to meet them with cautious tactics. Sheridan and Mrs. Fitzhenry, who had renewed their engagements, were purposely kept by Ryder as a *corps de reserve*, till the opposition began to muster from all sides to one point. The muster at last assumed formidable proportions, and the contest for the dramatic crown seemed inevitable. The issue was soon to be raised—Capel-street v. Smock-alley, or Dawson and Ryder. Who or which conquered, or deserved to conquer, will be seen as we proceed through the stirring campaign to its close.

#### IRON BRIDGES OF LARGE SPANS.\*

SINCE the year 1863, when a paper on the subject was presented by the late Mr. Zerah Colburn, no communication had been submitted to the institution relative to the construction of iron railway bridges of long spans, as practised in America. At that time the longest iron span in America was the central tube of the Victoria Bridge at Montreal, 330 ft. in the clear. Since then, several bridges had been built with wider openings; and one had lately been completed over the Ohio River, at Cincinnati, with a clear span of 515 ft. This was the longest railway girder yet constructed, the next longest, the Kuilenburg Bridge, in Holland, being 492 ft. The arches of the Saint Louis Bridge were also 515 ft. span. Almost all American Bridges of spans exceeding 100 ft. were pin-connected, instead of being united by riveting. That plan was preferred on account of the mathematical certainty with which the strains could be calculated, and the deflection or camber ascertained,—of the economy, ease, and celerity of erection, which for rivers subject to sudden floods was a matter of vital importance,—and because it was believed that the parts of a bridge could be more strongly united than by riveting, and that a consider-

able reduction was possible in the dead weight of iron. Two of the latest and best examples of American long-span iron bridge constructions were chosen for illustration. One was the trussed girder bridge across the Ohio River at Cincinnati for the Southern Railway—515 ft. between the bearings, and erected on temporary stagings of timber—designed and executed by Mr. J. H. Linville. The other was the bridge of three spans of 375 ft. each, carrying the same railway across the Kentucky River, the engineer, in this case, being Mr. C. Shaler Smith. Both bridges were noteworthy for their economical design, and for their comparatively small amount of dead weight. The Ohio Bridge consisted entirely of rolled iron, pin-connected. The girders were quadrangular, each 51½ ft. deep, the panels being 25¾ ft. long, and the girders 20 ft. apart from centre to centre. The weight of iron in the span of 516 ft. was 1,176 tons. With a total load of 431 tons, the centre deflection of the east truss was 2 3/32ndth in., with a permanent set of 1-16th in., that of the west truss being 2 in., with no permanent set. Advantage was taken by the engineer of the Kentucky River Bridge, of two towers and sets of anchorage, formerly constructed for a suspension bridge across the canon, which had not been completed. The first panel of this bridge on each side was bolted to the towers, and was then corbelled out panel by panel. The towers were calculated to be strong enough to carry 196 ft. of projecting spans. At this point the spans were supported by temporary towers of wood. The corbelling out process was continued until the above spans each reached the main iron piers, which were built up simultaneously, so that the two met in mid-air. Each half of the centre span was then corbelled out as before, until they met in the centre. At this stage of the work, the upper chords being in tension and the lower in compression, the former were nearer to each other than the latter by a few inches. The method of closing the gaps under the changes resulting from alterations of temperature was then described. Up to this time the bridge was a girder 1,125 ft. long, continuous over three spans. But while the abutments on the cliffs were stationary, the iron piers rose and fell under changes of temperature, and so varied the strains on the web system. The shore spans were therefore hinged at points 75 ft. from the piers, leaving a centre girder 525 ft. long, supported by piers 375 ft. apart. Both of the web systems of diagonal rods were consolidated into one member at the point of contrary-flexure, and were separated again after the hinge was passed. When the bridge was tested it was found that the movement of the lower chord tenons under the passing load was 1½ in. Every effort was made to secure the uniformity of the modulaurs of elasticity of every part of the ironwork. Nevertheless, the variation in length, between the east and west chords, was 1 in. in 1,125 ft. When the end-spans were loaded with 277 tons, and the centre-span unloaded, the central deflection was 1-52 in., and the upward movement of the central span was 2-83 in. With the centre-span loaded with 331 tons, and the end-spans unloaded, the central deflection was 3-5 in., and the upward movement of the cantilever was 1-58 in. With all the spans loaded, 814 tons in 904 ft., the centre-deflection of the centre-span was 1-62 in. The Kentucky River Bridge occupied four months and four days in erection, the average number of workmen employed being fifty-three. The average cost of erection was about £2 10s. per ton. The weight of iron in the bridge was 3,654,271 lbs. The depth of the truss was 37½ ft., and its width was 18 ft. The iron pier at the base was 28 ft. by 71½ ft.; at the top it was 1 ft. by 18 ft.; and it was 177½ ft. high. This was one of the boldest and most original pieces of bridge engineering in America. Both it and the Ohio River Bridge were conspicuous for economy of design. Economy of design was obtained by proportioning all the parts of a bridge with

\* By Mr. T. C. Clarke. Read at Institution of Civil Engineers, London, on the 21st ult.

a similar factor of safety, and then combining those parts into a whole; and, secondly, by using such proportions of height of girder, length of panel, and combination of parts; also, such width apart between the girders, and such methods of bracing the two into a structure able to resist wind pressure or shocks, as would accomplish the first requisite with the least quantity of metal. The problem could only be solved by a tentative process. To show how this had been accomplished the author gave a table showing the weight of iron and other important data of some of the most conspicuous long-span railway bridges constructed in Europe and America, and contrasted several of the examples cited. Finally, the author stated that the workmanship of long-span bridges in the United States was generally firstclass; and that the price of American bridge work had fallen year by year, from £40 6s. per ton in 1870 to £20 16s. per ton in 1877.

## NOTES ON THE RISE AND PROGRESS OF PRINTING AND PUBLISHING IN IRELAND.

### TWENTY-SECOND PART.—conclusion.

OUR twenty-one preceding papers have afforded, we think, a pretty fair outline of our subject, and the most noteworthy matters in connection, from the earliest times, in this country down to our own time,—printing, publishing, newspapers, periodicals, their chief representative men, and the principal literary characters associated with Irish literary undertakings. It is not desirable to further extend our papers; and in concluding with our present article, we will perforce be compelled to omit details of men and literary enterprises within our own recollection, but too close to the period of our writing to render publicity on the whole desirable to all the parties concerned.

Of still living newspapers in the Irish capital, dating back somewhat early in the present century, we have the *Dublin Evening Mail*,—for some years a morning paper as well, instead of, as originally, a tri-weekly issue. The *Ward* also still lives in connection; like the former, Conservative to the backbone, but still thoroughly Irish from its own point of view. The *Mail* of the days of John and Remy Sheehan, was a very popular journal, and since their days down to the close of the half century, much racy matter might be related in connection with its conduct and its writers. From an Irish industrial point of view, the *Mail* rendered on several occasions efficient service to the nation. Many able contributions and poetical effusions appeared from time to time in past years in the columns of the *Mail* from writers who made their mark elsewhere in the periodical literature of this and the sister kingdom. The *Ward* was looked upon for long years as the bulwark of the Irish Church, but designated by the Repeal party as an "Orange rag"; but rag or flag, it fluttered bravely and fought courageously for its constituency. For a long series of years, the *Ward* afforded amusement to the citizens of Dublin by the racy letters that appeared weekly in its columns, under the nom de plume of "Terry O'Driscoll," dated from Stoneybatter, the productions of a gentleman named Jackson, once well known, but now many years deceased. For several years in Dublin, there was published the *Packet*, a paper of a similar stamp to that of the *Mail*, and written with considerable vigour for a portion of its career, and from the same office was issued the older *Correspondent*. The interests of the *Packet* were ultimately nominally, if not really, incorporated in the *Mail*. The name of Maunsell was for long years associated with the proprietorship of the *Packet*, and among some of its best contributors (long years dead), was Price, who was the author of several excellent poetical pieces, which attracted in their time much notice.

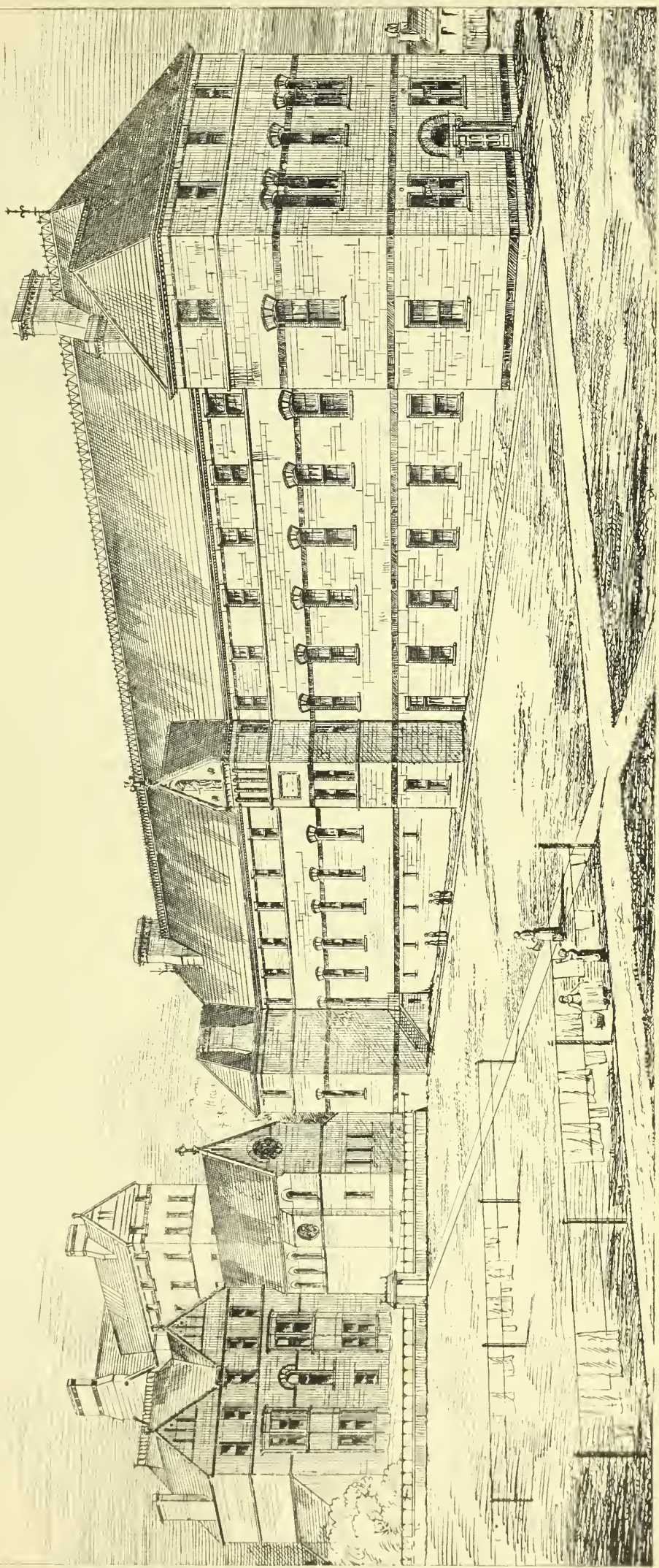
Between the years 1840 and 1848 inclusive, several newspaper and periodical enterprises

were started, but we have already enumerated the principal of them. In October, 1842, the *Nation* newspaper (still in existence) was started, but its history—literary, political, and revolutionary, its writers and political leaders—would make a volume in itself. Its old series, from its starting till its suppression in July, 1848, form its most remarkable volumes. The revived *Nation*, too (1849), till the period of the departure of its editor and proprietor (now Sir Charles Gavan Duffy) to Australia, is not without considerable interest. The establishment of the *Nation* and its career during the Young Ireland outbreak, forms an era in Irish national journalism hrimful of incidents. Three of the most conspicuous men who were among the founders of the *Nation* were—Thomas Davis, the poet and essayist, who died young in 1845; the late John Dillon, barrister, and for some years before his death a member of the Dublin Corporation; and Charles Gavan Duffy, the proprietor and editor in chief. Davis during his connexion with the *Nation* was almost its life's blood. Although the *Nation* was not the pioneer of Irish national journals, it was after its establishment the chief representative, and by its advocacy it created a new literary spirit in the country that found vent in various ways in the fields of prose and poetry and Irish historical studies, literary and political. To enumerate all, or even the chief writers or contributors of the *Nation* in Duffy's time, would be to furnish a very long list of names, most of which are so well known as to scarcely need a recapitulation in these columns. Among the most conspicuous of the essayists and poetical contributors in the pages of the *Nation* in its first series were—Duffy, Davis, Dillon, Mitchel, Darcy, M'Gee, Drennan, Devin, Reilly, Joseph Brennan, Rev. C. P. Meehan, Richard O'Gorman, jun.; Thomas Francis Meagher, Professor Ingram, Dr. Madden, Clarence Mangin, John Keegan, John Fraser (J. de Jean), Denis Florence M'Carthy, John Fisher Marny, "Carroll Malone," Martin M'Dermott, Lady Wilde (Speranza), Mrs. Kevin Izod O'Doherty (Eva), Miss — (another of the Graces whose name we forget at the moment), Richard Dalton Williams (Shamrock), and a list of other ladies and gentlemen too numerous to mention, including a good sprinkling of the "patriotic priesthood," some of whom wrote vigorous ballads and war songs. The *Nation* was first published, we believe, at 12 Trinity-place; next in D'Olier-street, and subsequently at 6 Lower Abbey-street, in Duffy's time. We could recount much of its history and associations from recollection alone; but the time has hardly come for a general revelation. The later history of the *Nation* under Cashel Hoey, or the brothers Sullivan, the present proprietors, belongs to a date too recent to enter upon here.

During the revolutionary year of 1848, several periodical ventures were started—some dying with their first or second issues, and others lasting a few months. Of one or more of these we have already given some notes. The *United Irishman* of John Mitchel lasted from February till the end of May. On the morning of his transportation, we witnessed his departure from the North Wall, saw the dock draw-bridges withdrawn, as the police van passed over, and the people beat back by a cordon of policemen. A body of Mitchel's admirers, members of the Confederate Clubs, interrupted at the Custom House, made round by Sheriff-street, where a fierce fight ensued between them and the police stationed at the canal bridge. Three times the Young Irelanders beat back the police, and three times were beaten back,—some, however, making good their passage to the point of the North Wall. Stones were freely used, and some slight wounds resulted. Within an hour afterwards we made our way to the *United Irishman* office in Trinity-street, and on our arrival we found two drays drawn up outside, and the police and draymen engaged in carrying out the cases of type and other printing plant belonging to

the convicted journalist. The plant, if we remember aright, was carted to stores in the Lower Castle-yard. The *Felon* newspaper, by John Martin, the successor to Mitchel's paper, lasted only about five numbers before its suppression and the subsequent surrender of its proprietor. The *Tribune* of Kevin Izod O'Doherty and Richard Dalton Williams, had about the same brief existence before its suppression and the arrest of its conductors. Several of the writers of poetical contributions of the *Nation* and *United Irishman* contributed to the *Felon* and *Tribune* newspapers during the few weeks of their existence. William Carleton, the novelist, commenced an Irish story, called the "Evil Eye," in the pages of the *Tribune*; it, of course, was never finished in that journal. Some scribe in one of the other papers drew public, or rather Government attention to the fact of Carleton's contributing to a revolutionary organ, at the same time of being in receipt of a Government pension. The animus manifested, however, did the Irish novelist no harm, for his pension was obtained a short time previous for the literary merits of his works, and altogether apart from politics. There were hot and stirring times in sooth 'twixt the early days of February and the last days of July in Dublin in the year 1848. With the succeeding State Trials came a depression in many industrial fields, and perhaps in no field in Dublin was greater depression felt than in the literary market. Printers and publishers—of the national type at least—printed no longer with "a vigour and a vengeance"; but even apart from national literary ventures, there was dearth and dampness in the printing and publishing trades, and little literary activity. Many suspected and non-suspected young men, literary and professional, left Ireland for America and other places, and in less than two years, when the sun rose upon the commencement of the last half of the nineteenth century, Irish journalism of the national type was a changeling of sober tint, and native periodical literature had not, we believe, one weekly representative. The penny journals and magazines of more ambitious class and general periodicals had vanished; a host of writers and readers were scattered to the winds, and most of those who elected to stay at home grew careless or indifferent for a long time to new literary or political uprisings or speculations.

Connected with the spread of literature in Ireland, and more particularly in the capital, there has been for long years a most deserving class of men, many of whom evidenced not only practical sagacity and ability, but literary genius—the class to whom we refer are the second-hand book collectors, but whom we will designate the antiquarian booksellers. From this class in the past century as well as the present came many of our subsequent most enterprising and wealthy booksellers. Counting from the days of Luke White alone in the last quarter of the eighteenth century, the ranks of the antiquarian booksellers numbered several very clever men. During the era of the Irish Parliament these traders added to their business lottery offices, and the old directories of Dublin need only be consulted to find who they were, where they lived, and at a later date to what civic or Parliamentary position they succeeded. In the early part of the present century, and in our own time, some of the most enterprising of our Dublin publishers and booksellers commenced life as hawkers, or kept street or dead-wall book-stalls. Of a few of them we have already supplied brief notes, and only that we are chary of perhaps hurting tender susceptibilities, we would mention a few more names of hale men amongst us, who, though age has withered their brow, have not yet wintered their heart or cooled their love for the pursuit of their profession. The once-famous Anglesca-street has witnessed the first beginnings of a number of these antiquarian booksellers, and some other streets within the circuit of half a mile. The Kellys, Duffys, Flemings, Geraghtys, and



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others may die, but the Rooneys, the Traynors, the Landers, the Darcys, and others whose names do not just occur to our memory, live, and each and all are doing good service in collecting and distributing rare Irish works. The veteran John O'Daly, of Anglesea-street, was, however, more than a mere antiquarian bookseller—he was an Irish scholar and author, and publisher as well as a bookseller of several of his own works during the space of thirty years and upwards. If you want a racy old bookseller's catalogue full of piquant criticism, we will commend you to Rooney; or if you want very rare editions with supplemental matter, we will send you to the same or to Kelly's successors. Mark, ye laggard public, the antiquarian booksellers are now their own editors and reviewers, and they do their work very fairly and with credit to their profession. Long may they live, for many a stealthy earam of knowledge we got at their old bookstalls ere we awoke one fine morning more than a generation ago, and "found ourselves famous."

Ere drawing our Notes to a conclusion, we would be inclined to venture a few words prospectively on the future of printing, publishing, and literature in general in Ireland. At present, the Irish publishing trade is almost non-existent. Our publishers are nominal booksellers in fact, and mere English and Scotch publishers' agents. We do not care to lift the veil too high, for the whole exhibition would be a sad one. We must confess it, however, there is a want of enterprise and energy, as well as a want of capital; and if the former requisites were more often evidenced, the latter would be forthcoming. The London mint mark is still thought indispensable to sell a book—a London publisher's name, even although a Dublin typographer turns out the work, as he often does. Authors who have to live by their works, are, perhaps, under the present circumstances of the publishing trade, not to be blamed for going to London; but from year to year there are many works the production of persons not dependent upon their pen for a living, that could be produced in Dublin quite as well as in London. We know now, and we have known in recent years, books and journals, nominally published in this city, but in reality printed and published in London, and some of these by pronounced and professing patriots. In view of these facts and tendencies in the same direction, how are we to hope and speculate? Our job-printing trade and our newspaper trade, constitutes nearly the whole of our publishing. Our learned and scientific bodies afford some little work in the year, and the Corporation and local boards have their own appointed printers for yearly reports and balance-sheets. Some railway printing is done in Ireland, and the old firm of Alexander Thom does a considerable amount of Government printing, connected with Irish departments. The University Press still works; but, after all is summed up, it may be truly said—"Great cry and little wool," for we have no book-publishing trade, and we are unable to predict the advent of a wished-for better time. Plenty of sham patriotism exists, but there is little public spirit, or true *amor patriæ*. We are speaking irrespective of sect or party, for Ireland to be served truly, must be served by all her children, and at home, whenever it is possible.

Our task is ended for the present, though our subject has not been half exhausted; but health, time, and opportunities are denied to us to pursue our task any further. A twelvemonth has nigh elapsed since we took up our pen, and in each issue of this journal during that period we have continued our papers without intermission, up to the last issue, with scarcely time for thought or writing, no time for necessary references, and with but a very odd chance for correcting a proof before publication. Our series of Notes, with all their imperfections upon their heads, are now before the public, and we do not regret the labour or the time expended, though if we were to begin our

task again, we would hesitate upon entering upon it under the same conditions. Whether our outline history will in the course of time expand into a larger work, we cannot say just now; but in laying down our pen in this particular field, we trust that we have not written in vain.—Farewell!

C. H. C.

#### NEW LAUNDRY AND MAGDALEN ASYLUM.

WE this week illustrate a new Laundry and Magdalen Asylum which is being built on the Crofton-road, Kingstown. The institution has been in existence in Glasthule for many years, but owing to circumstances it has been decided to remove it to a more central position. The building will be 236 feet long, and about 40 feet deep. It will contain reception parlour, refectory, oratory, infirmary, dormitories, bath-room, &c. The laundry occupies the principal floor, and will be fitted up with every modern appliance and requirement for a steam laundry. The institution is in charge of the Sisters of Mercy, who have initiated a bazaar to defray the cost of its erection. Messrs. Meade and Son are the contractors. The plans have been prepared by Mr. John L. Robinson, architect and C.E.

#### THE LATE WILLIAM FOGERTY, ARCHITECT.

WE regret to chronicle the death of Mr. William Fogerty, F.R.I.B.A., a comparatively young and promising architect. The deceased was the second son of John Fogerty, C.E., late of Limerick. A few years since the subject of our notice settled for a short time in London, and subsequently, some time between 1871-5, proceeded to make a sojourn in the United States, where he designed some buildings. Returning two or three years since to his native land, he commenced the practice of his profession in Dublin, where he resided till his death, which took place on the 22nd ult., at 23 Harcourt-street. On his return from America Mr. Fogerty read some papers at the Irish Institute meetings on American Architectural Practice, and we published in this journal some sketches from his pen descriptive of public buildings, men and manners, and sundry other matters of society in New York. We have not a complete list of his works to hand at present, but among others of the buildings he designed the following may be enumerated:—The Protestant Hall, Limerick; the establishments of Cannock and Tait, George-street; Mr. Hogg's, Dr. and Messrs. Boyd (now in course of erection); a mansion for Mr. Phelps, Castleconnell; the Munster Arcade, Cork; the Lunatic Asylum, Ennis; Mr. Revington's house, Ardgah; an Episcopalian Church in New York; the Wesleyan College, Belfast; Violet Hall House, Bray, the residence of Mr. Edward Griffin, and son of the late Bishop of Limerick; the Smith O'Brien Mausoleum; and the ancient Irish Cross erected by the late Venerable Arphdeacon Gould to the memory of his daughter. The deceased was a member of the Irish as well as the British Institute of Architects, and a past president of one of the Irish bodies. It is sad to relate that his early death was owing to an attack of small-pox of a virulent type, which is at present prevalent in Dublin, and which, we are pained to say, is likely to lead to the sacrifice of other valuable lives ere it is stamped out by other more efficient measures than those adopted by our very somnolent Corporation. Mr. Fogerty was in excellent health up to the period of his fatal attack. The remains of the deceased gentleman were

removed last week from Dublin to his native Limerick, and were interred in St. Munchin's grave-yard. Thus perishes and passes from our midst a valuable life, slayed as it were by a foul but preventible disease, at the early age of 44. Had the life of our deceased architect been spared, he would, no doubt, have won a distinguished place in the ranks of his profession; but, as it happens, he has not died undistinguished, for he gave evidence during late years to considerable architectural and literary abilities.

#### ARCHITECTURAL COGITATIONS IN CORK.

A WRITER, under the *nom de plume* of "Vigilans," in the *Limerick Chronicle*, furnishes some amusing social and architectural musings respecting his "Trips to Cork." His description of St. Finbar's Cathedral is certainly unique. We will not spoil it by criticism:—

"The exterior appearance of the cathedral is very imposing, the effect being greatly heightened by its three towers and spires, its numerous buttresses, and the semicircular apse at the end of the chancel, but there appeared to me an oppressive air of heaviness and tremendous solidity, and a painful want of architectural lightness and grace. My principal stricture, however, in this respect, is concerned with the interior of the edifice. There, even omitting the same enormous heaviness, the extreme narrowness and vast height, I observed two objects which I do not hesitate to call about the ugliest I have ever beheld in a place of worship—the organ-case and the pulpit. The organ, a very large instrument, stands in a gallery just large enough to contain it and nothing to spare, over the great front entrance door between the two smaller towers. Its front consists of a large number of metal pipes, painted in some undecided and sad colour, retained in their places by many square, uncompromising perpendicular beams of wood, which are crossed in their turn by other equally heavy beams at right angles, thus presenting a facade of square apertures not remotely suggestive of a colossal apothecary's shop with the drawers taken out. Whatever could have possessed any organ-builder to design such a case, or any architect to approve of it, is a question the elucidation of which I leave to far wiser heads than mine. The pulpit, situated at an angle in one of the transepts, is of stone or marble, very low, but making up for its want of height in its vast redundancy of diameter. It seemed singularly surrounded by a broad, dark-coloured band, apparently of metal. On the whole, its resemblance to some large vat was, to my mind, very great. Practically, I did not altogether admire the building, and that for two reasons. In the first place, the choir was placed at what I would call an absurdly great distance from the organ; and secondly, its capacity for accommodating a congregation seemed commensurate neither with its great cost nor with its requirements. At a rough calculation, I concluded that not more than 400 people at the outside could sit (or stand) within view of the pulpit, whereas the ordinary parish church could, if I do not greatly err, accommodate nearly double the number. Nevertheless, despite these honest jottings of my individual opinion, I repeat my previously-expressed admiration of the splendid structure—being, as it is, a vast and durable monument of the energy, piety, and liberality of the Protestants of Cork,—led by the example and cheered by the unflagging zeal of their venerated and venerated bishop [the late Dr. Gregg]."

St. Finbar's Cathedral is not yet finished, but "Vigilans" says he is reluctantly compelled to deprecate the style of its construction on two grounds—the one, æsthetic, the other, practical. On the whole, the architecture is open to criticism, and so is the critic.

## LECTURES ON ARCHITECTURE.\*

(Continued from page 153.)

PERHAPS the most noticeable development of the period we are now discussing is the treatment of the windows. From the few and scanty loopholes of the castle, we have advanced to a perfect blaze of light and walls almost made of windows, as at Hardwick Hall, Derbyshire. Oriel windows had long existed, particularly in connection with the dining hall, as I have described in a previous lecture. They were, however, commonly used where special dignity or importance was sought. We now find oriel and bay windows adopted with the greatest freedom, so that they may almost be said to be inseparably connected with Elizabethan domestic work. We have projecting windows of all kinds of design, with canted sides, square sides, curved sides, and even semicircular in plan. They are usually built up from the ground, although the use of corbels was still frequent. From being a subordinate feature, the windows now challenge attention, and dominate the gables and other parts of the elevation. Not only are they wide and ample on plan, but they are of such height that they need to be divided by horizontal transoms, several of which are often to be seen in the same window.

The change from mediæval economy to Elizabethan exuberance in the matter of windows is very remarkable. It was foreshadowed in the works of the Tudor period, and even church architecture shared in the movement. The great east window of Gloucester Cathedral is an instance of daring, I had almost said reckless extravagance, of fenestration.

The Elizabethan builders went, however, as a rule, beyond their Tudor predecessors in this respect. They widened the bays and increased their projection, they lengthened the lights, discarding tracery, and even the flat four-centred arch which so long lingered as a relic of mediæval forms. Their windows were, as a rule, made of rectangular divisions; and arches, which had now become semicircular, were reserved for doorways.

We may still trace a disposition to coquet, as it were, with Gothic details, particularly where ecclesiastical feeling was in any way regarded. Thus, at Crewe Hall, where all the windows of the rooms are square in their form, there is one exception to the general rule. This is in the chapel, where the window, which is semicircular on plan, has curved heads with cusps set in a square, in the later mediæval manner. This circumstance is the more remarkable, as the whole building was erected at the same time,—from 1615 to 1636.

It is evident that glass must have become cheaper and easier to procure before such windows as those of the Elizabethan era could be planned and executed. This was doubtless the case, being one of the results of the advance of the country in wealth and commerce. It is not very long since that glass windows were luxuries, carried about from place to place by the great lords on their journeys to their various country seats or town palaces. Windows were holes in the walls, to be closed by wooden shutters, and, therefore, not to be lavishly employed. Now, we find enormous surfaces of glass, with little attention to shutters or other means of security. Not only was glass readily attainable, but men were able to think more of the comfort and less of the defensive security of their residences.

In early examples, and in exceptional cases, we still find evidences of a certain distrust in the height of the eills above the floors, so that it is difficult, and in some instances impossible, for the inmates to look out of the windows. In almost all cases, indeed, the window-cills are higher than modern ideas approve. This is, however, in all probability, often a mere question of taste. Our forefathers do not seem to have attached the same importance to the enjoy-

ment of a view of fine scenery as we do, nor were they fond of living on the ground floor. The chief room of the Elizabethan residences was the long gallery, an upstairs apartment, usually extending the whole length of the house. The great reception-rooms, excepting the dining-hall, were also frequently placed upstairs, and under these circumstances a good view of the surrounding country could be readily obtained.

A low window-cill is a feature common in southern countries, and connected with the frequency of balconies. It has never been a favourite in England, as it is, for example, in France, where it is the custom to carry down the windows, in almost all cases, to within a short distance of the floor. In genial climates the architects were ever eager to use the balcony as one of the most obvious means of producing effect within their reach; but in English domestic work it was, as a rule, forbidden by the exigencies of the climate, and the feature is not commonly to be seen in our old architecture.

Another peculiarity to be noticed is the irregular, and often fantastic, shape of the gables. The principles of design now in vogue had become so much influenced by classical ideas, that the verticality of former days was out of date, and a more horizontal treatment was everywhere apparent. In houses of several stories the floors asserted themselves, even externally. Buildings were crowned with cornices and parapets, while roofs of moderate pitch and span replaced the high coverings of earlier times. The gable thus lost a great part of its original importance. It was not by any means, however, discarded, and, in some cases, even seemed to be regarded with special favour, from the care given to the design of the varied outlines which had come into favour.

With simplicity of form, the real importance of the gable had very much passed away. It had become, as it were, a plaything, to be used as an ornament behind projecting windows. It was frequently cut off from below by cornices and parapets, and so recessed as to lose any great amount of dignity. For farm-buildings and structures of moderate pretensions the gable still kept much of its old prominence; but in mansions, such as Crewe Hall, it had become a minor detail in the composition; while at Longleat, and still more at Wollaton, it was only represented by scrolls and ornaments, recalling, in an indirect manner, its former outline.

A similar declension may be observed in the importance of towers. At Wollaton, indeed, the tradition of the old keep of the castle survives in the elevated mass of the central hall. The Elizabethan was not, however, a tower-building style. Turrets, indeed, abound, but they are seldom of much structural importance. Attached to gateways and flanking entrances, they served to keep up a certain stateliness, and preserved the traditions of earlier days. The high spire-like tops had gone, with their stone finials and crockets, and the favourite mode of finishing the turrets was now a depressed form of ogee, commonly made of wood and covered with lead. In the times of castle building, the tower was the house, now the house was everything, and turrets were only ornamental portions of the latter.

The skyline was broken by chimney-shafts, arranged, as has been said, in groups or in lines, and their number and importance were significant of the increase of domestic comfort now sought for, in the internal arrangements of the house. The fire-places had become the most conspicuous feature of the living-rooms. They are often massive structures, extending to the ceiling, and ornamented with rich panelling, niches, and sculpture. They illustrate very clearly the transition that was in progress, and the taste that was springing up for Italian detail and style.

The earlier examples of Elizabethan fire-places have projecting hoods, and follow the ancient manner of construction, which was pointed out to you in our examination of the works of the thirteenth and fourteenth centuries. Gradually departing from this type,

we come to designs of a less prominent character, as regards shape, and more decorated in detail. Chimney-pieces were important architectural compositions, built against the side of the room and forming its chief ornament. They were usually divided into two parts, and the rudiments of the window-shelf began to appear, though the time of nick-nacks was not yet. The material was usually stone, and this was sometimes employed for the whole structure, though, more commonly, the upper part of the composition was made of wood, and even of plaster.

The amount of wood-work in Elizabethan houses was very great. Panelling was not only plentifully used for window and door dressings, but it also extended from floor to ceiling in the galleries and principal rooms. The staircases also were often masterpieces of the carpenter's art. The panels were designed with numerous mouldings of shallow section, often roughly worked. In the best examples the mouldings were worked on the solid rails, and in the earlier work were combined with chamfered top and bottom rails, in accordance with the custom of Mediæval workmen.

The wood used was generally oak, and the grain or pattern upon it is very distinct and far more beautiful than we can generally obtain in the oak and wainscot of modern commerce. Our forefathers grew and worked their own timber, and were better able than we often are to refuse the bad and select the good. Modern possessors of old English mansions have often complained of the abundance of oak panelling. It has grown dark and almost black with age, and thus has given the apartments a sombre appearance, and has caused difficulties in lighting it, especially at night. Of late years we have seen a great movement of restoration, which has, in many cases, taken the form of undoing previous mischief, and numberless have been the cases where the old oak panelling has been found concealed under coats of white paint and paperhanging.

The early habits of our forefathers led them to think little of lighting their rooms at nights, and with gas and other illuminating agencies at our disposal, there need be no reason for us to deny ourselves the pleasure of restoring their work to its original beauty.

And now I must, for the present, bring the description of the Transitional style before us to a close. Having described some of its peculiarities we will, on another occasion, examine some existing examples of this manner of work more in detail. As regards the style itself, it is impossible to claim for it a high artistic position, at least as it was worked out by the Elizabethan architects. At the same time, it may be doubted, as I have before said, whether full justice has been done to its merits, and more particularly to its possibilities.

The buildings which were erected in the Elizabethan style, have qualities not without claims on our approval. There was evident in them, in the first place, a care for architectural effect; the construction was generally sound and truthful; and whether the building were a palace, as at Hatfield or Burleigh, or a farm-house, or a plain yeoman's dwelling, there was an appropriateness in the design which rarely fails to please. If we are sometimes offended by clumsily-executed mouldings or by the intrusion of discordant forms, we must remember that their designers were feeling their way, and that but for circumstances, hereafter to be noticed, they might, if left alone, have achieved something purer and better.

Some modifications of architecture were imperatively called for by social changes, and these were sought in the direction of greater elasticity. The methods adopted, whatever their faults, not only answered their purpose, but were perhaps more distinctively English than any of those which preceded them, or by which they have been followed.

The English Transitional style had thus

\* By Professor E. M. Barry. Third Lecture. Delivered at the Royal Academy, London.

a strongly marked and national character. If it had not the grandness of the Italian, it was better adapted to English wants, tastes, and the requirements of the climate. If it missed the picturesqueness of the French, with its affluence of dormers, balconies, and turrets, it had, nevertheless, a local colour and effectiveness of its own, suiting well the parks, dales, and valleys of English counties. It spoke of home life, with all its softening associations, and even where it displayed the grandeur of wealth and rank, it did so in such a manner as to indicate the position of a landlord living at peace among his tenantry, rather than that of a feudal chief, cherishing exclusive privileges and obliged to be ready, at any time, to defend the same, and subjugate the people beneath, rather than around him.

The mansions of Old England were thus houses and not castles, and they remain to us in great numbers in all their beauty, while many a prouder structure abroad has disappeared by incendiary fires, or has been laid waste by civil violence.

In the works of the Elizabethan period in this country, we may, I think, see traces everywhere of that measured and gradual advance in civilisation and comfort, as well as of the respect for law and order which has prevailed, more or less, in our fortunate land, through the most troubled times, and which has consequently and appropriately found expression in Transitional English architecture.

### THE PHONOGRAPH.\*

(Concluded from page 155.)

Mr. William Henry Barlow, one of our most eminent engineers, produced what is termed the logograph, that being an instrument which recorded, not the sonorous vibrations properly of the mouth, but variations of the air pressure in the immediate vicinity of the mouth. On the diagram to your right there is an enlarged representation, on Mr. Barlow's logograph, of the line, "The minstrel boy to the war has gone—In the ranks of death you'll find him." There you will see depicted in curves the different sounds uttered by the voice. They give you, in their amplitude, the loudness of the sound; in their length, the pitch of the sound; and in their form, the quality of the sound—the *timbre*, as the French call it. From this we spring at once to the phonograph, of which we have now all the elements before us. The phonograph was discovered, like many other things, by mere chance. Edison himself was experimenting with the telephone, trying all kinds of experiments, as all of us have been doing, to improve the telephone; in so doing, he pricked his finger, and, drawing it rapidly away, a line was made on his finger. This gave him the notion that if the diaphragm of a telephone could mark his finger, why should it not mark paper, and if it marked paper, why could the sound not be reproduced? So he took a piece of Morse paper and inserted the diaphragm of the telephone, where the ordinary style of the Morse instrument is, and there is found on the paper, when he uttered the words, "Halloa! halloa!" distinct marks, varying dots and dashes, or a series of dots. Then he took this strip of paper and allowed it to pass back again. He simply reversed the process, and instead of making the diaphragm vibrate with his voice, by passing the paper back again in the reverse direction, he caused the paper to make the diaphragm vibrate, and the result was, he heard a faint "Halloa! halloa!" come out of the diaphragm. This was a glorious triumph for Edison. It occurred on a Wednesday afternoon. He worked at it all the Wednesday, all Wednesday night, all Thursday and Thursday night, all Friday and Friday night incessantly, without eating, drinking, or sleeping, until on Saturday morning he produced his first phonograph. I have on this diagram a drawing of this first phono-

graph. His difficulty was, having secured the principle of the vibrating diaphragm, to procure some substance which would retain those marks. By a happy inspiration he almost at once lighted upon tinfoil. Tinfoil is in itself a highly inelastic substance, and is not only very inelastic, but is a very yielding substance. Any mark made on tinfoil remains impressed there, and will remain there for an indefinite period. He then made a cylinder of brass, which he covered with a sheet of tinfoil. The cylinder was centered on a screwed axis supported by bearings, and was rotated by a handle at the extreme end. A heavy fly-wheel was attached to it to secure uniform velocity, and there you have all the mechanical contrivances required to make a phonograph. The mode in which it moves is shown in this section on the lower part of the diagram, which is a section taken through the diaphragm of the cylinder. It shows here the section of a diaphragm with its point behind it, the rough end of the cylinder depicts the vibrations, and the forms that are marked on the tinfoil somewhat similar to the forms that are marked on Mr. Barlow's logograph. The great difficulty that persons at first have in following the description of the phonograph is this. We can all very readily see how the vibration of a diaphragm can make marks upon tinfoil, but it is not so easy to see how it is that when you reverse the process these marks on the tinfoil reproduce or repeat the same vibrations. We fancy that the effect of reversing this process, and passing the tinfoil under the diaphragm, would be not to make the diaphragm vibrate, but to rub out the marks on the tinfoil. But the marks are not rubbed out. It appears that the resistance which the diaphragm makes to the vibrations caused by the marks on the tinfoil is very slight, and the same piece of tinfoil can be used over and over again. I have used the same piece as many as twenty times, with a very slight difference in the intensity of sounds produced. The fact remains, that when you pass this marked tinfoil a second time beneath the point at the back of the diaphragm, it then causes the diaphragm to vibrate in exactly the same way as it vibrated under your voice, and the result is if you cause the diaphragm to vibrate in the same way that it vibrated under your voice, you get precisely the same notes, of the same pitch, and the same quality as were contributed to it by your voice. I do not know whether I have made myself clear, but if I have not the instrument shall speak for itself. Here we have the latest form of instrument. It is made by one of the first mechanicians in this country, Mr. Stroh, for the London Stereoscopic Company, who have secured the right of using the phonograph in England, and to whose courtesy and kindness we are indebted for its exhibition to-night. It differs considerably, as you see, from the instrument I have described to you—viz., Edison's first instrument, although it is essentially the same in principle. One great defect in the instrument shown on the diagram, is that you cannot ensure the same velocity of rotation in the cylinder when the sounds are repeated as it had when the sounds were given to it. It requires great delicacy, and a great deal of experience to rotate an instrument of the kind with uniform velocity by the hand, although aided by a fly-wheel. Here, by an exceedingly pretty contrivance, there is a falling weight, which, by an endless chain, and two or three wheels, imparts rotation to the cylinder, and it has this governor above it, these expanding wings, which, by their resistance to the air, give to the instrument what it wants—namely, uniform velocity. The result is, that when you speak into this instrument, you obtain very nearly a reproduction of the sounds emitted—very nearly, not quite. The instrument has not quite reached that perfection when the tones of a Patti, or the speeches of a Gladstone, or the sermons of a Liddon, can be faithfully repeated; in fact, to some extent it is a burlesque or parody of

the human voice. You have heard me speak for so many minutes that you will be able to judge how far the instrument will reproduce my own voice. It gives off musical sounds admirably, but unfortunately I am not a musician. I am like the gentleman who only knew two songs, one of which was "God save the Queen," and the other was not. I do not know the song that was not, so I will presently give you "God save the Queen;" but before we come to that, we will try some poetical quotation, or some learned aphorism, and see what the effect will be.

[Various experiments were made with the instrument, which reproduced some lines of a nursery rhyme, some remarks made by the Chairman, a verse of "God save the Queen" sung as a duet, the notes of a bugle, some imitations of animals, &c.]

I dare say many of us have thought to ourselves, what uses can this instrument be put to. Now, it is quite evident to you that though the production of sound is very wonderful, it is not very perfect; in fact, there are some consonants that are wanting altogether. The *s*, for instance, at the beginning and end of a word is almost entirely lost—is entirely lost, although it is heard slightly in the middle of a word. The *d* and the *t* are exactly the same; and the same in *m* and *n*, *mane* and *name* are not distinguishable. Hence, it is extremely difficult to read what is said upon this instrument; if a person is put out of the room, and you speak into it, he can with difficulty translate what it says. Still, I read distinctly on the first instrument sent over from America to me, a message that was sent to me by its inventor, Mr. Edison. It said distinctly, "How do you do? What do you think of my phonograph?" Those words were spoken into the instrument in New York, were carried across the Atlantic, and, more than a fortnight after they were uttered, I heard and translated them. But the principal purpose to which it was thought that it could be applied—viz.: to dispense with our friends the shorthand writers, is, I am afraid, still very far in the future. It has been proposed to fill libraries with speeches, with sermons, with plays recited by eminent actors, but the instrument has not yet reached that stage when such a thing is probable. It remains an extremely interesting scientific toy, a wonderful novelty. But it is only a chick. It is only three months old, and if it can do what you have heard to-night when three months old, what will it do when three years old? One of the purposes to which it is proposed to be applied is this. This is what Edison says:—"I saw the President of the American Philological Society the other day, and he had a conversation with a Portuguese who was in the room through the phonograph. He wants one of my improved phonographs to preserve the accents of the Ormandagas and Tuscarroras, who are dying out. One old man speaks the language fluently and correctly, and he is afraid he will die. You see, one man goes amongst the Indians and represents the pronunciation of their words by English syllables; another represents the same words differently; there is nothing definite. The phonograph will preserve the exact pronunciation, and the President of the Philological Society means to travel with it amongst all the North American tribes." And so if men in future ages want to know how our Chairman pronounced the English language, or how your lecturer sang, we have only to hand down to posterity this piece of tinfoil.

I do not think I can show you any more of the wonderful performance of this instrument collectively, but we will keep it going for your amusement for some time. I am much obliged to you for the attention you have bestowed, and I must say I have felt great pleasure in bringing the phonograph before the Society of Arts. The inventor of it was kind enough to send me the second instrument that was ever made, and it has been my privilege, as well as my great pleasure to bring his wonderful invention before the British public.

\* By W. H. Preece. Read at ordinary meeting of the Society of Arts, on the 8th ult.

## THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Royal Irish Academy was held on the 27th ult., for the presentation of the Cunningham medals, and the transaction of general business. We are glad to see the selection which has been made by the Council in awarding the medals, and we hope in future the same judicious discrimination will be evidenced in the selections. Four awards of gold medals were made—one to Dr. Aquilla Smith, for his inquiries into Irish numismatics; one to Dr. Casey, for his important mathematical discoveries; one to Professor Dowden, for his literary writings, especially in the field of Shaksperian criticism; and one to Dr. G. J. Allman, for his researches into the natural history of the hydrozoa. The gold medals are somewhat massive, well cast, and handsome. They bear on one side the likeness of the first President of the Royal Irish Academy, on its formation in the last century (James, Earl of Charlemont); and on the obverse side, a design emblematic of the departments in Literature, Science, and Archaeology, represented by the Academy. On presenting the medals respectively to the recipients, the President prefaced each distribution with a short sketch of the labours and researches of the distinguished members who were honoured. The three first-named recipients were present; and in the case of Dr. Allman, the gold medal was received on his behalf by the Rev. Dr. Haughton. A vote of thanks to the President, which was carried by acclamation, brought the proceedings to a close.

## RIVER POLLUTION.

THE Corporation of St. Alban's have for some time been the defendants in an action brought against them by Mr. Woodlam for polluting the river Ver with sewage matter. The case was again before the St. Alban's County Court judge, Mr. Whigham, on Saturday last, on an application on the part of the plaintiff for the defendants to be fined £50 a day for every day during which they continued to pollute the river Ver with sewage matter. Mr. Dumville, Deputy Clerk of the Peace for the county of Herts, argued the case very fully on Saturday, and complained of the conduct of the defendants in not proceeding as expeditiously as they might have done with a remedy for the evils complained of. At the close of the arguments, the judge made an order for the Corporation, as the Urban Sanitary Authority, to be fined £25 a day, to be paid at such date as the Court might direct. Liberty was, however, to be given to the defendants to apply three months hence for the order to be rescinded, on proof being given that care and despatch had been used in the preparation of a scheme for preventing the continuation of the offence, and that such scheme will be carried out without delay.

## BOOKS RECEIVED.

*Details of the Restoration of Christ Church Cathedral, &c.* By R. B. M'Vittie. Dublin: Porteous and Gibbs. 1878.

THE author of this little work has dedicated it "To all Amateurs and Connoisseurs of the True and Beautiful in Art." We hope they are sufficiently numerous to secure Mr. M'Vittie a large sale for his work, written, as he tells us in his preface, to commemorate "the completion of the great work of the restoration or re-edification of the Church of the Holy Trinity, Dublin, more generally known as Christ Church Cathedral; a work which will exalt to the highest rank amongst the magnanimous and munificent benefactors of his country the name of the man who laid a vast fortune as a thankoffering on God's altar, and has thereby handed down his own name, enshrined in this beautiful pæan of stone, to remotest posterity." The architect, the builders [the Messrs. Cockburn], and their workmen, all severally come in for a word of praise from our author. The building "is a restoration in every way worthy of

that title, and is carried out in strict harmony with the remains of genuine antiquity." Mr. M'Vittie is of opinion that no other building firm in Ireland could have erected such a record to their skill as this beautiful cathedral displays, the entire completed within seven years. The men employed were all picked men—the best the country could produce.

The general arrangement of this book is rather faulty. The author will do well (should future editions be called for) to recast the entire, and keep all details connected with the cathedral proper in chapters or sections by themselves. Under the impression that it is his first literary venture, we will not just now criticise his *brochure* too severely.

We are in receipt of the first issue of *The Brennan Genealogist*, published at Peterborough, New Hampshire, U. S. A., by James F. Brennan. It is, as the name indicates, a past and present history of the widely-spread Brennan family, and presents very interesting and well-arranged matters in relation to this old Celtic name. The journal is in 4to size, well printed. The idea is quite a novel one, and perhaps some of our readers might be able to supply the editor with notes that may be of assistance to him in tracing the "Brennan" family.

From Messrs. Cassell have been received a few of their serials—"Great Industries," part 5; "Dictionary of Mechanics," parts 17 and 18.

## MARYBOROUGH COURT HOUSE—A LADDER WANTED!!

AT the road sessions for the barony of Maryborough East, the following discussion on the state of the Court-house took place:—

Colonel Carden said the courthouse urgently needed repairs. The roof was in a terrible state. This day week, which happened to be very wet, the rain was coming into the judges' chamber in the Record Court.

Mr. Townsend—What is wanted for this place is a ladder! The court keeper should be made to see that the valleys were properly cleaned, for they are the cause of much of the damp.

Colonel Carden—You can't expect Wheeler to do that for the salary he gets. I think we should get a man to see after it by contract.

Mr. Townsend—We tried that before, and £24 a-year was the lowest estimate we got. We took it, but it did not do the least good.

Colonel Carden—The fact is the courthouse is going completely to ruin; I don't care what part of it, you will find the same state of decay. We ought to appoint some responsible person to see after the place, and not let it get worse than it is.

Mr. Townsend—How are you to pay him?

Mr. Kemmis—What you want clearly is some person to inspect and look after the roof. Is that the business of the courthouse-keeper?

Sir Allen Walsh—I think it is his business to see after those things. Of course we are satisfied to pay him any little expense he incurs.

Dr. Jacob doubted if the courthouse-keeper was the most suitable person to look after the roof.

Colonel Carden was of the same opinion.

Ultimately, it was decided to get a ladder, and pay the courthouse-keeper any outlay he may be at in cleaning the valleys of the roof, &c.

## SANITARY ITEMS.

ARDEE.—The state of the dispensary district of this town appears to be very bad, and has called forth a correspondence between the Local Government Board and the guardians, which we publish elsewhere.

THE TRIQUE RIVER.—Respecting the reported nuisance at the Trique, which has led to local correspondence and discussion, the following resolution was passed at a recent meeting of the Maryborough Town Commissioners:—

"That the attention of the town commissioners having been called to the pollution of the Trique river by the discharge of the sewage of Maryborough into same, in consequence of the recent change in the course of the drainage outfall of the town; that our clerk be directed to communicate with the board of guardians, requesting them to take steps to discharge the sewage elsewhere."

THE WORKING OF THE PUBLIC HEALTH ACT.—The following remarks on the working of

the Public Health Act, and the very unsatisfactory manner in which its provisions are carried out, are taken from the *Leinster Express* of 18th ult.:—"Scarcely a week passes without some one of the boards of guardians throughout the country condemning the Public Health Act of 1874, and denouncing the Legislature for having enacted such a useless measure. The statute is not without its defects, and we are inclined to the opinion that the chief mistake of its authors was the selection of the public bodies to which the administration of the act is, in most instances, entrusted. In other words, the shortcomings of the sanitary laws are to be attributed less to the general character of their provisions than to the incompetency of those on whom it devolves to put them into force. The reports of the transactions of the rural sanitary authorities, which we print from time to time, are not calculated to inspire our readers with an exalted idea of the capacity and discretion of those who have been constituted the supervisors of our sanitary arrangements. We fear that it must be confessed by every candid person that, in very many instances, the guardians of the public health have committed grave blunders, and, in some cases, they have gone so far as to make themselves almost as obnoxious as the nuisances they are charged to abate. The latest instance of a bungling application of the sanitary laws which it has been our unpleasant duty to chronicle has reference to the drainage of Maryborough, which has recently been carried out on an elaborate plan adopted by the Rural Sanitary Authority. It is fair to add that the board of guardians is not alone to blame in this case. The ratepayers can form their own opinions respecting the effectiveness of the supervision exercised by the Local Government Board, when they learn that the plan was sanctioned by that body, notwithstanding that it proposed a clear infraction of the law. When the scheme for the drainage of Maryborough was under discussion, we pointed out that the proposal to discharge the sewage into the Trique river was open to grave objections, and that if it were sanctioned the sanitary authority might, at no distant day, be called upon to do over again the work they were about to commence. Our warning was unheeded; and, we regret to say, its wisdom has been demonstrated sooner than we imagined it would have been made apparent."

## TO CORRESPONDENTS.

WASTE AND SLOB LANDS.—No steps are being as yet taken in Dublin, as far as we can learn, to reclaim the slob lands and foreshores north and south. The estuary at Ballybough Bridge is a small individual effort.

A NORTHERN BUILDER.—The colour of a brick may often afford a test of its durability; but a dull brown brick may be as good a brick as a deep red one. Fashion rules in the choice of colour.

AN ARTISAN.—Put your thoughts in a shorter compass, and we will afford you space for their ventilation.

T. C. (Queenstown).—You are greatly mistaken; the gentleman you name is not the writer. If even we mentioned his name, it would likely surprise you to know he was amongst you for a few days, and never informed your brethren of the fact.

RECEIVED.—W. R.—C. E.—P. L. G.—Fingal.—J. H.—H. C. (Cork), thanks.—M. D.—A Carpenter.—F. B.—R. S.

ACCIDENT.—A painter, while engaged in painting one of the minarets in front of the Turkish Baths, Lincoln-place, fell off the ladder, a height of 35 feet. On being removed to hospital, it was found the skull was fractured. Death ensued soon after admission. He was 23 years of age, a native of Wales, and had been employed by Mr. Aungier, of Mount-street.

POPE'S VILLA AT TWICKENHAM.—On Tuesday a large number of persons were attracted to the auction mart, Tokenhouse Yard, by the announcement that Messrs. Lumley would offer for sale Pope's villa at Twickenham, which, as is well known, has a very interesting history, the poet having purchased the property in 1715, and resided there until his death in 1744. The property offered included the whole of the grounds, five acres in extent, with the cedars and other valuable growing timber, together with the celebrated grotto formed under the direction of the poet, and which the printed particulars stated remains intact to the present day. The first offer made was £5,000, which was immediately followed by an advance of £1,000, and by further advances of £1,000 and £500 each, the property shortly stood at £8,000. Ultimately, the biddings rose to £9,100, when, there being no further advance, the property was bought in at £14,000, but it was stated in the room that this sum was nominal, and that the property will probably be purchased by private contract at a less sum. An adjoining river-side residence, known as "Pope's Garden," together with a freehold piece of land laid out as a kitchen garden, were next offered, but were bought in at £5,000.

## CORRESPONDENCE.

## TECHNICAL EDUCATION.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your last number there is a short notice of technical classes in carpentry, bricklaying, masonry, and other building branches now being formed in London and in the provinces of the sister kingdom, and asking, "How long will it be before a similar movement is initiated in Dublin?"

It does not appear to me that there need be any delay beyond the coming forward of those who wish to help themselves, and, by combining, the instruction can be had very cheaply.

From the experience I had of Irish artisans in the class for drawing, which it was my honour and pleasure to instruct some years ago (the pupils of which look back to their period of study with pride, and many of whom occupy responsible positions in distant parts of the world), I believe a class for technical instruction by lectures, in connection with mechanical and architectural drawing, would be a success, and that there is ample material for its formation if, as you say, those connected with the large building workshops of the city would combine and hold a meeting in the Coffee Palace, the Mechanics' Institute, or some other suitable place.

From having some unoccupied time on my hands I could co-operate with such a movement and give it the advantage of actual professional instruction and assistance, conveyed in the language of the trades and not merely in that of the schoolmaster. I have always found the members of the several branches of the building trades anxious for technical knowledge, and gratefully ready to receive it; but there has been a very serious want, especially in Dublin, for some class or meeting for instruction. Artisans, as a rule, do not want to be introduced to algebraic mysteries, and, although anxious to escape the doubtful accuracy of the "rule of thumb," would wish some more "royal road" by which to reach perfection than that of equations or possible "quadratics in space." The lump of chalk and black board, in connection with the T-square and drawing-board, are the friends they require—friends to whom I will be happy to introduce them if permitted. Next to music, drawing, even mechanical, offers a recreation and diversion to the mind not easily to be realised by those who seek amusement in more mundane pleasures, and if joined to that source of happiness total abstinence from mind-destroying, intoxicating stimulants, becomes a lever in the hands of the intelligent workman productive of happiness and fortune.

If, Sir, any number of tradesmen will form a class and communicate with you, and wish my co-operation, I will at once, on hearing from you, attend to arrange preliminaries or give my advice and assistance.

JOHN S. SLOANE.

Clontarf, 17th May, 1878.

[We would cordially commend the offer made in the above communication to the serious consideration of the thoughtful section of our young artisans, particularly those belonging to the building and cognate branches. We will be only too happy to assist the formation of such technical classes by every means in our power. Let a preliminary meeting be called at once, and an earnest effort made, and we are certain our young artisans will not regret the result.—ED. I. B.]

## THE CORPORATION AND THE GAS WORKS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Within the past week there appeared in a Dublin journal a review of a recently-published pamphlet on "Dublin Municipal Reform," by Mr. John M'Evoy. In that review I find the following

statements:—"The citizens have to thank the so-called 'Citizens' Committee, its aiders and abettors,' for the costly parliamentary expenses incurred in the Gas Bill, which, if Mr. M'Evoy and his friends had not disputed, would now be giving the citizens a revenue of thirty thousand a-year." The IRISH BUILDER, viewing the transaction as injudicious, opposed the passing of that Bill; and as I at the time contributed my mite of individual exertion in defeating the scheme, I respectfully ask permission to explain, through your columns, in what respect the above statements are erroneous and misleading.

The fact of a bricklayer or a tinker being competent to manage a gas works with *apparent* success causes me to hesitate in reminding your readers that the most eminent gas engineers in those kingdoms denounced the Dublin gas works as being the worst constructed in the world—that a very large outlay of money would be required to put them in proper working order; and even after such an expenditure, that it was doubtful if the concern could be made to pay, the gas district being so scattered. Yet the Corporation promoted a Bill in Parliament for the purchase of such a gas works, well aware that the shareholders had not received any dividends for some time previous. The Citizens' Committee petitioned Parliament against the passing of that Gas Bill, and I have reason to know that that petition was promptly signed by all the citizens who were ratepayers, or gas consumers, except some of those who were shareholders in the Gas Company, and who had an interest in the passing of that Gas Bill. Further, nearly everyone who signed that petition, expressed, when doing so, their conviction that the Corporation, having proved their incompetency to effect the domestic scavenging of the city, would, if entrusted with the artificial lighting of it, not only plunge it still deeper into debt, but would also eventually leave it in total darkness. The citizens have, therefore, to thank the members of the Corporation for the expenses incurred in their abortive attempt to carry out that measure, in defiance of the unanimous protest of the ratepayers whom they (*mis*)represented.

The statement that the citizens lost a revenue of £30,000 per year by the defeat of that gas bill, is not only misleading, but it is amusingly so. The ratepayers of Dublin would have been at a serious annual loss had the Corporation, under the above circumstances, succeeded in becoming manufacturers of gas. That the shareholders in the gas company have received for some time past, the largest amount of dividends permitted by law, is a fact well known to Dublin gas consumers, very few of whom believe that they consume much more than one-half the bulk of gas they have to pay for, and whose bitter complaints on the subject frequently appear in the columns of our daily journals. Whether all the ingenious methods lately discovered by the wet-meter cobblers, are utilised in acquiring those large dividends, I am not now going to assert, but the published weekly report of the gas inspector to the Board of Trade, shows that the use of one of them has become a permanent institution, that of excessive pressure on the gas supply, the action of which on the wet-meters used in Dublin, is most unjust to gas consumers.

Almost all the holders of gas shares in Dublin are also gas consumers, and amongst them are to be found many of our most influential citizens. It now answers such gas consumers to quietly pay their gas bills, and receive their dividends, much on the same principle as that of feeding a dog with his own tail. If the Corporation had succeeded in obtaining their Gas Bill, those holders of gas shares would then have the city rates accountable for their dividends, and would no longer care if the manufacture of gas paid a profit or not. There would not then be, as now, a divided interest among gas consumers. All of them would then decline paying for 1,000 feet of gas if they considered they did not use much more than one-half thereof, and instead of those overcharges being unwillingly submitted to, there would then occur in Dublin,

"A strange harmonious inclination  
Of all degrees to reformation."

Parliament would be appealed to; the gas consumers of Dublin would succeed in having certain amendments made in the Gas Acts, one of which *might* provide that in future the pressure on the gas supply should be similar to that under which the meters were tested, whether that pressure would be one-half or three one-half inches, and such an amendment in the Dublin Gas Act would not only leave the asserted revenue of £30,000 per year *non est inventus*, but an additional rating of two shillings in the pound would be absolutely necessary to enable the Corporation to sell an honest thousand of 16-candle gas for five shillings.

JAMES KIRBY.

29th May, 1878.

## HOME AND FOREIGN NOTES.

**SOUTH CITY PUBLIC MARKETS.**—The plans chosen for erecting public markets in this city, at a cost of £70,000, are those of Messrs. Lockwood and Mawson, of Bradford.

**DUBLIN MORTALITY.**—The Registrar-General reports that the deaths during the past week in this city show a rate of 33.4 per 1,000. In London the rate was 20.1; Glasgow, 22.8; Edinburgh, 20.8. Small-pox cases are still very numerous—the rich and poor alike are being carried off by it.

**SOUTHERN DISTRICT TRAMWAYS.**—The Committee of the House of Commons in charge of the bill for the construction of a tramway from the city to Blackrock, and from Kingstown to Dalkey, have declared its preamble proved. This line will be a great boon to dwellers along the "Rock-road."

**THE MAGDALENE TOWER, DROGHEDA.**—This interesting ruin is still the subject of correspondence and debate. There appears some difficulty as to how funds are to be raised for the reparation of the structure, and who are to be its proper custodians. The people of Drogheda should feel a pride in contributing to the preservation of the old tower, which has so valiantly weathered the storm of centuries.

**THE GENERAL CONFERENCE OF ARCHITECTS.**—The opening meeting of the biennial Conference of Architects takes place on Monday evening, at the rooms of the Royal Institute, Conduit-street, London. The sittings will last till the following Friday evening. Several interesting papers will be read and discussions take place, and visits to public buildings and workshops will be made during the week. We trust, as upon last occasion, that some Irish representatives of the architectural profession will attend and take part in the proceedings.

**SUBURBAN BUILDINGS, NORTH.**—In the Drumcondra and Clontarf districts, a number of domestic dwellings are in course of erection, under the superintendence of our local architects. Mr. George Tyrrell, of Russell-place, has just completed a glebe-house at Clontarf, and is at present engaged in completing a row of two-storey cottage buildings at Fairview. The same builder is at present erecting a church school on the North Strand Road, convenient to Newcomen Bridge. The extensive mansion erecting for Sir Arthur Guinness, Bart, M.P., at St. Anne's, Dollymount, is proceeding satisfactorily, under our old experienced builder and citizen, Mr. Thomas Millard, of Harcourt-street.

**SUBURBAN BUILDINGS, SOUTH.**—Several handsome villa residences are at present being erected in the neighbourhood of Rathgar and further a-field. Three are being erected on the Winton-road, Rathgar, from designs by Mr. Carson, architect, the builder being Mr. Robert McCleane, of Rathgar-avenue. The greatly increased price of building material of all kinds is not conducive to building speculation, but on the whole the building industry of the County Dublin is fairly brisk at present.

**BRIDGE BUILDING IN COLERAINE.**—At a meeting of Coleraine Presentment Sessions there was a presentment "To build a stone bridge, with two arches 13 ft. span over the Agivey river, on the road from Garvagh to Swateragh between the townlands of Brockagh and Brockaghoy." The consideration of the proposal led to a most amusing and animated discussion, in which a Mr. O'Connell—a perfect genius in his way—fought energetically for the providing of the new bridge, and even surprised the members by submitting a map drawn by himself, although he described himself as "a plain countryman." We are informed by the local journal that this plan or map, having been inspected by the court, the members "appeared surprised at its artistic drawing." County surveyors and engineers had better look out. After a long discussion a motion was carried to build, it was understood, a timber bridge, at a cost of £200, as the road is of a third class kind and not subject to much traffic.

**CONVERSAZIONE.**—The President of the Institution of Civil Engineers (London) has issued invitations for a conversazione on Monday the 3rd instant, to celebrate the fiftieth anniversary of the granting of the Royal Charter of Incorporation. The soirée will, by permission of the Secretary of State for India, be given in the India Museum, South Kensington. On this occasion the invitations have not been extended to ladies as in some recent years, but the former plan has been reverted to of asking scientific and representative men in other professions to meet the members of the institution. Besides the beautiful and extensive collections comprised in the museum, it is intended to include some illustrations of the latest developments of the practical applications of electricity. We anticipate the usual success of the yearly gathering, for the public spirit manifested by the Institution is large and noteworthy.

# PROPOSED "RESTORATION" OF ST. DAVID'S CHURCH, NAAS.

A MEETING of the select vestry was held on Tuesday last : the Rev. M. T. Burgh, vicar, in the chair. Members present—Baron de Robeck, D.L.; Mr. Thomas J. de Burgh, J.P.; Dr. Hayes, J.P.; Rev. R. D. Skuse, M.A.; Messrs. E. Molloy, R. H. Tracy, William S. Gray, John Brownlow, Joshua S. Cantrell, and Robert Quirke. Mr. Thomas Drew, R.H.A., was also present.

When the meeting was formally opened, the chairman said that Mr. Drew had kindly come before them with plans for the restoration of their old and venerable church. Mr. Drew had submitted to him a paper containing the history of St. David's church. It states that it is one of the oldest and one of the very few in use since before the Reformation.

Mr. Drew then laid the plans before the meeting, showing the proposed work, namely, the restoration of the centre aisle, building of an addition to the present chancel, and the re-building or restoration of St. Catherine's aisle on the side. By re-building the latter they would have more space in the church, and a site for the organ in the aisle.

Mr. Molloy said the present gallery might then be done away with.

Mr. Tracy—It would be a great improvement to do away with it, as it is very unhealthy up there!

Mr. Gray—How much would be the cost of what you propose, Mr. Drew? It would be well if we knew what the cost of the pews, the chancel, and the aisle would be separately.

Mr. Drew—The cost of the re-pewing would be about £130; for the chancel, £500, and for the aisle, £400.

Baron de Robeck—We have £80 since the concert some years ago.

Chairman—And we may possibly get a grant from the Beresford Fund towards the work, when plans are laid before the next meeting.

Mr. Gray—I would be an advocate for doing the re-pewing and the aisle first, and let the chancel remain over until we have funds.

Dr. Hayes—It is not likely that we will get any money from the Beresford Fund if we do not do all the work.

The plans were then adopted, and the report ordered to be printed; lithographs of the existing state of the church, and of the proposed plan of restoration to be placed in the pages.—*Leinster Express*.

## ADVERSARIA HIBERNICA,

### LITERARY AND TECHNICAL.

IN the thirteenth chapter of his work on "British Education" (1756), Thomas Sheridan, the father of Richard Brinsley Sheridan, answered the query from his own point of view, Whether it is not probable that the arts might arrive at as high a pitch in this country as at Athens or Rome? Sheridan, as most of his well-informed countrymen know, was a many-sided individual, a versatile genius, at once an actor, a manager of the Dublin stage, a dramatist, an elocutionist, and a lexicographer. He wrote and lectured much on oratory, and he believed that a good education and oratory were the foundation of the perfect gentleman; indeed, he believed that the encouragement of oratory was the encouragement of the arts. Speaking of the natives of the British Islands in general, he says:—"The instances of the force of genius in the natives of this country with regard to the imitative arts, are too many and too apparent to need any enumeration. Wherever they have had living subjects to draw from, they have not failed to produce the strongest resemblance and the most forcible expression. If they have failed in the more exalted views of human nature, it is because there were nowhere proper objects in life to be found from which they might receive the impression. Hogarth has admirably repre-

sented such nature as he found. Our writers of comedy have outdone all the rest of the world in the variety as well as the exact drawing of the characters from life. Our tragic authors, indeed, one only excepted, for the above reason, have fallen very short of theirs. Garrick must be allowed to be inimitable in the representation of such comic characters as he has an opportunity of observing in the world; nor does he fall short of equal perfection in such parts of tragic character as can be taken from life. The forcible and natural expression of his madness in Lear could hardly have been represented in such lively colours, had he not borrowed it from the school of nature, from Bedlam. This reminds me of the excellent figures of the two lunatics, done by Cibber. Nor can it be doubted, from the place where they stand, and the opportunities which he must have had, but that the admirable expression to be seen in these statues was taken immediately from life. This is the more likely when it is considered that none of his other works contributed much to his honour, in which the rest of his fraternity shared; he probably contented himself with copying other masters."

Now, when Thomas Sheridan had written the above remarks, the arts of painting and sculpture in Great Britain, as far as native productions were concerned, had made but small progress. Tragedy and comedy, however, had made rapid strides, and the works of Shakspeare were long before the world. Three plays, written by three Irishmen—"The School for Scandal," "She Stoops to Conquer," and "The Heiress"—soon after Sheridan wrote, made their appearance on the British stage, and conquered a position which they still maintain. The first was by the son of Thomas Sheridan, the second by Goldsmith, and the last by Murphy; and the three works taken *in globo* are three of the best plays or comedies ever written. Their production adds strength and point to the remarks of the elder Sheridan. We do not, however, entirely agree with the last-named writer when he says—"There were no proper objects in life to be found from which they [British artists] might receive the impression." A tour on the Continent of Europe was in the last century and early in the present considered indispensable for completing the studies of the British gentleman, and, as it were, "polishing him off." It was also considered absolutely necessary for the young artist to go to Rome or Athens to witness the ancient examples of the fine arts. Rome and Athens are yet to some extent yearly visited, but now we have libraries and museums in number at home. As to studying nature, she can be studied everywhere; nature and animated nature in her thousands of various forms and shades surround us on all sides. Among British ladies there are models as perfect in face, form, and expression as any to be found in Greece or Italy; and Lord Byron, who was no mean judge of beauty, has given us some noble lines, beginning with these words:—

"I knew an Irish lady once,"

and his estimate, from beginning to end, was no exaggerated one. We have often asked ourselves why does beauty and nature in the distance look so fair to the eyes of her worshippers? Distance may lend enchantment to the view, but ugliness or plainness is not really less ugly abroad than at home. What is within our reach we do not seem to appreciate; we are prone to depreciate native worth and exalt foreign products by an unfair standard or by no standard at all, save that of fancy or fashion. The barefooted Irish milking maid, or the peasant girl, at a fair with her picturesque costume, forms as good a subject for the artist as any Swiss mountain maid, or kindred illustration in Normandy. Beauty and virtue and perfectness in body and limb are not confined to any nation,—they may be found everywhere. The true artist need never want a model for the subject of his pencil or chisel. Were he never to leave the British Islands, he has no

end of illustrations; and the more he embodies in works of art what nature supplies him with at home, the more he will elevate himself, his country, and the art he practises, always supposing he is a true interpreter.

*Apropos* to the above, Sheridan, after writing at some length on oratory and its connection and assistance to the arts, makes the following assertion, and whether he sustains it or not, or whether it is sustainable, we will let others judge:—"A complete orator, when he speaks in public, presents at once to view all the perfections both of mind and body with which it had pleased God to adorn man, and which are never seen together in equal force or beauty in any other person. Here then alone is to be found the true pattern of the imitative arts, the only just model for the poet, the musician, the painter, the statuary to copy from. If we, therefore, are more deficient in subjects than the artists of Athens and Rome, it must be our own fault, since our talents cannot be said to be inferior, and since we have every excitement to the study of oratory which they had, and rather in a stronger degree."

As the last point to be considered, Sheridan discusses the subject of "suitable instruments," and on this head he goes on to say: "In this respect, it cannot be doubted but that we have amazing advantages over the ancients. With regard to musical instruments, from a view of the structure of theirs, it is impossible they could have been so perfect as those of later invention. In painting, we are possessed of all the colours which they had, and have many superadded by our commerce with the East and West Indies, which must have been unknown to them. All instruments used in sculpture, graving, &c., are with us in the highest degree of perfection; and were the English language properly cultivated, it would be found to be a much more complete instrument for the use of poets than what they were possessed of. If, therefore, upon the whole, we excel them in genius, application, and instruments, what can there be wanting to make the arts flourish more here than ever they did in Athens or Rome, but proper subjects and due encouragement? It has been already shown how proper subjects are to be obtained; and due encouragement, from the very nature of our constitution, can proceed only from a general good taste in the people, which must arise from the same source as the subjects. The quantity of the one will necessarily increase in proportion to the number of the other. When we consider that the cultivation of the arts is absolutely necessary to the well-being of the country, that the means are proportioned to the necessity, that as luxury must be a necessary disease here, and likely to rage with more violence than anywhere else, the Grand Physician increased the quantity and power of the medicine; that there was uncommon strength of constitution given to the struggle with the disorder, and the benign influence of the parent religion superadded, we cannot but conclude that this nation has been more peculiarly favoured by Providence than any other on earth. When we consider that from our very situation we are less liable to be attacked than any other great people ever were, and by the same means we are also precluded from the folly of ambition [Question], what has ever ended in the ruin of the greatest empires. That the intellectual faculties were never displayed in so high a degree as by the natives of this country in their searches into philosophy and all manner of science; that the people seem to be born with the best natural dispositions, and are above all others remarkably brave, generous, charitable, and humane, why does not Britain at this day eclipse in all things all other nations that either do or have existed?—why may she not promise duration to her state till time shall be no more?" Sheridan then proceeds to quote from the masterly picture of the state of Great Britain as drawn by George Berke-

ley, the then Bishop of Cloyne, and further on he quotes some pertinent paragraphs from the "Querist" of our good bishop, philosopher, and countryman. One of these queries may be reproduced, as it is very expressive:—"Whether in any Order a good building can be made out of bad materials? Or whether any form of government can make a happy state out of bad individuals?" Certainly not, good George Berkeley. We must educate to eradicate ignorance and vice, but our education must be thoroughly Christian as well as thoroughly practical.

Bearing upon the above subjects, we might add a few words. Education should be suited for the ends in view; and parents in this country should get rid of the mistaken notions they have long entertained in regard to what constitutes the gentleman. It is not giving their sons a good ordinary or liberal education alone, or endeavouring to raise them to "genteel" employments in the pursuit of which they will not have to soil their hands or wear coarse clothes. Irish fathers and mothers, a word with you:—Put more of your sons to trades, and less of them in the future to the so-called professions. Mechanical employment never yet degraded or disgraced any human being. Our country is backward in the industrial arts, because Irish fathers and mothers want to make their sons "gentlemen," and their daughters ladies—sons who, often in after life, have reason to regret their training, and daughters who are encumbered estates through their whole lives, unable to help themselves when adversity overtakes their parents. Until the dignity of honest labour is properly understood in Ireland by members of all classes,—upper, middle, and lower—our country must continue a laggard among the nations. H.

### THE SANITARY STATE OF ARDEE.

THE annexed correspondence, comprising the letter from the Local Government Board and the report of Dr. Moore, the sanitary officer, addressed to the guardians of the Ardee Union, reveals a sad state of matters in the Ardee district. It will not excuse the local authorities of Ardee if they can say that other districts are as bad as their own. The state of the district, as a whole, is disgraceful:—

"The Local Government Board for Ireland acknowledge the receipt of the minutes of the board of guardians of the Ardee Union of the 30th ult. The subject of defective drainage of the town of Ardee was brought under the guardians' notice by the Local Government Board, in their letter of 31st January last. The matter was then ordered to be considered on the 12th February, and on that day was postponed until that day fortnight. It would appear that no further steps have since been taken in the matter. This important question demands the prompt and effectual attention of the board of guardians, on whom, as the sanitary authority, is devolved the responsibility of all questions relating to the sanitary condition of the town as well as of the other parts of the union. The Local Government Board regard default in these matters in the same light as default in the execution of duties under the Poor Law Act. The Local Government Board request that the guardians will be good enough to have the defects in the pumps and their surrounding which the sanitary officer has pointed out, remedied without further delay, and that they will call on that officer to furnish a report in the proper form as to each nuisance which he may consider dangerous to health, stating at the same time his opinion as to the best means of abating such nuisance and of preventing its recurrence. The clerk of the union should enter each of the sanitary officer's reports in the minutes, with the order made by the guardians in each case."—B. BANKS.

The following is Dr. Moore's report:—

"In compliance with your application of the 17th inst., forwarded to me by the clerk of the union, requesting me to furnish you, for the information of the Local Government Board, with a detailed report of the defects in the sanitary arrangements of my district, as appended to my return to the Registrar General, for the quarter ended the 31st March, 1878, I have to state in reply, speaking generally of the entire district, there are no sanitary arrangements carried out, and if I except the exclusion of

pigs from the dwellings, which is not pretty general, the same state of things remains as before the sanitary act came into operation. Cess-pools and manure-heaps close to the cabin door are still as common as ever. Even with houses provided with reres, fowl are universally housed with the family, and occasionally the pig, goat, and donkey. Many houses, even in the country, are totally unprovided with reres, while others which have been reported as uninhabitable are still in the same state, and occupied. So much for the district in general. Now for the town of Ardee, the chief centre of population in my district. The lanes are, as a rule, kept in a most filthy condition; the main street is kept clean, and is healthy in dry weather, or when heavy rains have flushed the waterables, but in sultry weather the condition of those waterables is most offensive. This nuisance is caused by the vicious practice which prevails in this street of running a narrow gullet from the rere to the waterable in front, which not only contaminates the air of the dwelling under which it passes, but frequently discharges most offensive matter on the public street. An objectionable manure-heap and filthy pig-sty at the rere of many houses, feed these small drains. The extent of these abominations may be estimated by the amount which is barrowed through dwellings (!) into the public street for sale at this season of the year. The pumps erected by the Town Commissioners and the Board of Guardians are in general (not all) in working order, but as a rule no provision has been made around those pumps to carry off the waste water. The last and greatest defect I must mention is the want of a main sewer, and of course it will be understood that I included the town when I noticed the want of reres in many houses. In the face of these two great defects there can be no sanitation. I beg to remind you that I have reported to you on all those matters, and on some of them more than once."—T. J. MOORE.

### NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

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DWELLING HOUSES, COLLEGE GARDENS, BELFAST.

## Contents.

|   | Page |
|---|------|
| MUNICIPAL GOVERNMENT IN DUBLIN (second article) ..          | 171  |
| The New Bridges over the Liffey .. ..                       | 172  |
| The General Conference of Architects .. ..                  | 172  |
| The Institution of Civil Engineers of Ireland ..            | 173  |
| The <i>Conversazione</i> of the Civil Engineers (London) .. | 173  |
| The Balfie Memorial—Irish Music and Musicians ..            | 173  |
| Dwelling Houses, College Gardens, Belfast ..                | 174  |
| Our Sea and Harbour Marks .. ..                             | 174  |
| Cork Harbour Works .. ..                                    | 179  |
| A "Model" Church "Restoration" .. ..                        | 179  |
| Prevention of Gas Explosions .. ..                          | 179  |
| Adversaria Hibernica—Literary and Technical ..              | 180  |
| Notes on the Early History of the Irish Stage ..            | 181  |
| A Quaint Order .. ..  | 181  |
| Library of M. A. Didot .. ..                                | 182  |
| The Royal Dublin Society .. ..                              | 182  |
| The Latest Phase of the O'Connell Monument ..               | 182  |
| The Sham Usefulness of Cows .. ..                           | 182  |
| The Royal Institute of British Architects .. ..             | 182  |
| Mycene, Troy, and Ephesus .. ..                             | 183  |
| Home and Foreign Notes .. ..                                | 184  |
| To Correspondents .. ..                                     | 184  |

## THE IRISH BUILDER.

VOL. XX.—No. 444.

## MUNICIPAL GOVERNMENT IN DUBLIN.

## SECOND ARTICLE.



CITY never can thrive where the sons of traders and manufacturers look down upon their fathers' business with a sort of contempt, though willing enough to be made "gentlemen," professional and official, at their parents' expense. We know only a few firms in Dublin at the present day in which the business carried on has been continued in the same family since its establishment in the last century. The baker, butter merchant, provision dealer, and the publican who may have sons are naturally anxious to give them a scholastic education, but not a technical or practical one. If a fortune is realised (and many large fortunes have been realised in the whiskey trade in Dublin) the sons are not made publicans, but priests or ministers. Well, perhaps in this particular trade the transition from the counter to the pulpit is an improvement. In the case of iron-founding, coach-making, building, and cognate branches, how few, how very few sons will be found in Dublin carrying on the father's and grandfather's industrial art or trade? The church, the bar, and the medical profession are crowded with the sons of traders and manufacturers who began life as shopmen and assistants—men whose practical sagacity or perhaps shrewdness or low cunning has proved personally valuable to them in the struggle of life, for very many of these traders possessed no education, and not a few of them did not know how to write their own names. In a worldly point of view, it perhaps rounds to their credit that they have raised themselves in the social scale, and can now ape if not claim kinship with the "upper ten" or twenty.

Our object in referring to these phases of Dublin trading life is to point out the mischief and injury such a system works in this country. So long as honest trade and mechanical callings are looked upon with ill-disguised scorn, so long will the trade of Dublin consist of mere buyers and sellers, a mere city of second-hand shopkeepers instead of respectable manufacturers. Sons and daughters who are ashamed of their fathers' business, and are not noble and courageous enough to take it up and continue it, are unworthy of their race or country. The man who dispises the honestly-conducted business of his parent is, we would not hesitate to say, in several instances ashamed of his origin, and he who is ashamed of his origin dishonours his parents, and commits an act of self-abasement, no matter what else he may aspire to. All honest labour is dignified, and well would it be for Ireland to-day if industrial arts were in the ascendant, and the "genteel professions" were less hungered after by parents and children.

We have, on more than one occasion in this journal, touched upon this subject in its different aspects; and we are glad to find a pertinent paragraph in the same direction in the pamphlet just published by Mr. McEvoy. Comparing matters in Birmingham and Manchester with official-ridden Dublin, the writer alluded to says:—"In the former, men of the town council class have no difficulty in finding remunerative and independent employment, and trade not being looked down upon, or in local disrepute, business establishments are handed down from father to son. In Dublin, too many of the same class wish to get out of trade as soon as possible, and send their sons to the bar, or to medicine, or to something else that will qualify them for a government or municipal place; and the parents of these young gentlemen, when they become politicians, usually do so with the view of promoting the family elevation into the regions of official gentility."

True, undeniably true, every word; for, let the official appointments in the Corporation of Dublin be scanned for the last quarter of a century, and they will reveal a startling exhibition of how the system has been worked for the benefit of parents, friends, and relatives—fathers making room for sons or sons-in-law, &c.; and through a long sinuous course of intrigue and jobbery the public funds made a milch cow of for the benefit of the family party, in law and medicine, in assistant clerks and inspectorships, and in sundry other ways. Take the following extract from the pages of Mr. McEvoy, which we could supplement if necessary, but in itself it is quite sufficient for all honest and independent-minded citizens:—

"Under these circumstances the municipal service became, to a considerable extent, a preserve for corporators, their relatives, and political servitors. In the evidence, at Question 1,737, some examples were given of Dublin municipal appointments. The witness, the present writer, at the time was not prepared with the fuller particulars he is now able to submit. At that time there were four municipal offices filled by persons promoted to them direct from seats in the Town Council—the collector-general, the assistant of the town clerk, one of the city coroners, and a water-bailiff. Seven officers were relatives of corporators—the city marshal, the secretary of the Water Works Committee, a city assessor, the mace bearer, a water-bailiff, an inspector of weights and measures, and a store-keeper. Three officers were ex-secretaries of liberal and 'national associations'—the town clerk, one of the law agents, and one of the coroners. That many of the minor appoint-

ments have been given as remuneration for services rendered in electoral contests there is good reason to believe. With all the give-and-take arrangements at ward elections we cannot profess to be acquainted. Speaking of one particular ward, we happen to know that a newly-created weigh clerk and weigh master were extremely useful to one of the aldermen at a closely-contested election a few years ago. And, although the Corporation may be said to be now on its trial in its recent appointments, it follows the old rule. It recently had the election to the important office of street surveyor. As candidates for the office there were, among others, Mr. Robinson, Town Surveyor of Derry, whose conduct as such is favourably reported upon by the Local Inquiry Commission. On this gentleman informing the Corporation of Derry that he wished to compete for the Dublin Street Surveyorship, the mayor asked him was it that he considered his salary of £300 too small? If so, he was prepared to recommend to the council to retain him by advancing him to £400. Mr. Robinson replied that it was not; he wished for a larger field. Mr. Robinson had the useful ambition of a man knowing his business and desirous of advancing himself in the world, but he had no 'interest.' An officer of the Liverpool Scavenging Department, with first-class testimonials, was another candidate, but he too had no 'interest.' Neither had fit candidates, it appeared, for another office. One of the victims of the late Hammond-lane explosion, a licensed vintner, Mr. Duffy, was described (in a late newspaper report) 'as a lately appointed inspector of scavengers.' He lost his life, being at the time of the explosion, attending to his primary duties to his customers in his public-house next door to the foundry."

Now, are not the above facts glaring, shameful, and astounding in their nakedness? Are they not fit subjects for public comment, public exposure, and public condemnation? Are they not fit subjects for parliamentary discussion and Local Government Board attention? In a word, are they not a scandal to the city and the nation, and so utterly degrading and foul-smelling as to stink in the nostrils of all upright men, or men with a spark of true manhood in their natures? Here is another pertinent paragraph:—

"The reasons for the establishment of the competitive system of appointments under the Government, apply with equal force to the municipal service. In Dublin we never will have efficiency while the appointment of officers, their remuneration, and their continuance in office depend upon favouritism or begging importunity. Two officers of the Corporation (the city treasurer and the city architect) have recently dismissed themselves by absconding; but is there an instance of dismissal otherwise, no matter what the misconduct of the officer? He has but to hold on, and his friends in the council will keep him in his place, or secure him a good liberal pension if go he must."

It might be added, there are instances of officers well able to do their duties for several years to come, for whom it was made comfortable to go, to make room for new comers. The retiring officers secured their pensions in the prime of life almost, and they are now filling other appointments in the city or elsewhere:—

"Oh, no! we'll never mention them, Their names are never heard."

The present writer is no trader, and holds no public appointment, nor is he desirous of having any official connection with the Corporation of Dublin. He, however, knows its history well, and his only desire is to see it reformed and purged of its corruptions, or to see it a truly representative body of the city, and not an incubus, and a sham, and a libel on municipal government. Sops have often been thrown out to Dublin daily and weekly newspapers as quieting medicine, yet some organs of public opinion have under their proprietary grown so rapacious that the advertising sops had to be renewed and enlarged from time to time. If the present writer is not misinformed—and he could

swear he is not,—inducements were directly or indirectly held out not long since to the IRISH BUILDER to moderate its criticism; and that perhaps it would find such an act of prudence would conduce to its advantage. On one occasion, when an application was made on the part of this journal for an order for an advertisement—a professional journal being the best suited for the class of announcements which were on the occasion being made public in other ordinary newspapers,—what think you, duped citizens, was the answer received from the clerk or secretary of one of the committees of the Corporation?—“We [the Corporation, to be sure] never get from the IRISH BUILDER anything but abuse.” The rest need not be added here. There were no orders given where a muzzling could not be effected; for, order or order not, the criticism in these pages would be the same;—if censure was deserved it was given, but no gratuitous falsehoods were ever made, and if a misstatement did occur on any occasion, it was promptly corrected. We have often defended the Corporation of Dublin in these pages when it was unjustly assailed, or where it was powerless to act; and though our criticism was often hard it was just, and so it will continue to the end of the chapter, so long as we can wield a pen and find a municipal abuse existing.

Politics have so much entered the municipal system of Dublin, and have grown so great a part of its organization and management, and party politics and religious questions are so foreign to our advocacy, we are precluded from discussing several matters touched upon in Mr. McEvoy's pamphlet. Many of his suggestions are good, and, if carried into practice, we have little doubt could be made workable. In modes of election, representation, system of appointments, organisation of committees, increase of salaries, methods of conducting business,—in a word in all that conduces to placing the Town Council of Dublin on a proper footing, much, very much, remains to be done. Reform, however, will never come from within under the present class of representatives—we have waited too long for that, and there is no visible sign; for self interest, when the interested are in power, will not be moved to sacrifice itself for the common-weal. Where jobbery is a second nature to men, jobbery will be continued, and where party feeling and bigotry are nursed, the hotbed that gives warmth will still, while the fertilizing agents exist, produce the needed crops. Reform, if it comes at all (and come it must sooner or later), will come from without the Corporation, and not from within it, by the pressure of outside public opinion. To ripen the advent of such a reform movement, we have worked in our own channel persistently and unceasingly for several years.

We have endeavoured to make a certain class of municipal representatives see themselves as others see them, and the Corporation as a body to realise the fact that it stands by its own works and doings, self-condemned as well as publicly condemned, and that none save interested partizans could defend its actions. Our sphere is not politics or religion, but social and sanitary improvement, irrespective of sect or party, but for the general good of all. Of the Corporation's make-believe efforts, and miserable failures in a sanitary and kindred direction, we will have something further to say in another paper on Municipal Government in Dublin.

### THE NEW BRIDGES OVER THE LIFFEY.

We have already briefly noticed the progress made in the alteration and widening of Carlisle Bridge, as also the new Swing Bridge further down the river near to the Custom House. We deem it quite unnecessary, in a professional journal, to supply details of the plant used or the appliances made use of in modern bridge building. An outline of the works commenced at Carlisle Bridge and the Opening Bridge at Beresford-place were given in the Engineer's Report which was published in our issue of March 1st.

Respecting the works at Carlisle Bridge it may be added that the foundations of the abutments on the north side are built up to the springing line of the arch, and those on the south side are progressing. In the widening and improvement of Carlisle Bridge the engineer (Mr. Bindon B. Stoney) provided in his plan for adding two side bridges to the present bridge, of about 45 ft. wide each, making the whole bridge when completed 154 ft. in width. To particularize: there will be two roadways of 51 ft., two side footways of 18 ft., and a central footway for the convenience of tram-car passengers of about 15 ft. in width. Provisionally, by means of the side bridges the traffic can be continued while the alteration of the older central structure is being proceeded with. Temporary foot bridges of timber will also be erected outside the parapets, to assist in facilitating traffic during the progress of the work. When completed the parapets of the improved bridge will be surmounted with three-light ornamental lamp-posts, and five-light gasaliers of a similar design will be on the central footway. It is only just to add that the contractor, Mr. W. J. Doherty, is carrying on his work very efficiently at both bridges, and his plant and materials are equal to the needs.

### THE NEW OPENING BRIDGE.

Respecting this bridge, which is still nameless though in process of erection, we would make a suggestion. James Gandon who, though an Englishman by birth, was *par excellence* the greatest Irish architect of his day. He is still unhonoured in the capital of Ireland, save by his works, which are the finest that Dublin can boast of. The great architect, too, has never had even a common tombstone erected over his grave. He sleeps in the grave of his bosom friend, Captain Francis Grose, the antiquary, in the village church-yard of Drumcondra. Grose died in 1791, and Gandon about 1822; but not one line has been added to the slab that covers the remains of the antiquary and the architect to say that James Gandon sleeps in the same grave. Would it not be a graceful act to re-name the improved Carlisle Bridge after the original architect? or, if this was not thought desirable, to call the still nameless new opening bridge, near the Custom House, “Gandon Bridge?” The Custom House, near to the new opening bridge, is, as most people know, the work—the very admirable work of James Gandon. It is time, therefore, that the citizens of Dublin and our corporate bodies should call for the naming of some new street or bridge after our great adopted architect, James Gandon.

The new opening bridge will consist of two stone arches—one on either side of the river—having respectively a span of 37 ft., and two water-way passages of 40 ft. on each side of the central pier or platform, on

which the “swing” rests. If the width of the bridge is confined to a carriage way of 20 ft., with two side footways of 7 ft., we fear that the new bridge will not meet the wants of the present or future traffic of the city. The swing is to consist of two main wrought-iron girders, 125 ft. in length, 9 ft. in height at centre, curving at ends to about 4 ft. high, with a series of cross girders upon which the roadway rests. The swing (when vessels need to pass) will be moved by a small steam engine. The quay-side abutments, wing walls, and arches on the south side are now being completed, with the central pier. This work may be said to comprise two-thirds of the structure. The northern arch and abutments will be commenced shortly, as preparations are being hastened for that end. From the progress made with the works, we are inclined to believe that the contractor will be able to keep faith with the public, and complete his undertaking within the time agreed upon—which was two and a-half years from the 5th July, 1877, for the sum of £110,269 odd.

### THE GENERAL CONFERENCE OF ARCHITECTS.

THE Architectural Conference of this year may be pronounced fairly, if not wholly, successful. It opened, as announced, on Monday evening, the 3rd instant, and was the fifth General Conference held under the auspices of the Royal Institute of British Architects, at their rooms in Conduit-street. At the opening meeting there was a very crowded attendance. Had the conference opened previous to the first of the month, we would have been enabled to give some of its proceedings in our last issue, but having opened and concluded between our dates of issue, a special report this year was rendered unnecessary in view of the prior publication of our architectural contemporary across the channel. This year's conference was presided over by Mr. Charles Barry, President of the Institute, who read the following brief address:—

“I do not think it would be in good taste, when we have the promise of a paper from one among our distinguished band of honorary associates, Mr. Armitage, to detain you long with words of mine; but it seems to be considered my duty in some formal way to open the conference with an address. I cannot, I think, do better than by bidding a hearty welcome, in the name of the London resident members, to those of their brethren who have taken the trouble—at no small sacrifice, as I am well aware, of time and money—to come among us on this occasion.

It has been well said somewhere that if this Institute is an earnest body, if it indeed represents among its members British architects, these conferences will become a necessity of its existence, as well, I hope, as means for affording pleasure to all, and information to all. Since the last conference in 1876, the Institute has passed through more than one organic change. I fully trust and believe, as I hope you all do, that those changes have added to its vitality and vigour, and have in some measure better enabled it to assert and maintain the best interests of the profession,—interests which I can never believe are diverse from, or opposed to, the interests of the public.

It is impossible, I think, to believe that these meetings cannot do much good amongst us, or that men to whom professional life and labour is a very earnest matter indeed, can meet each other, as they have here an opportunity of doing, without gaining knowledge of much importance to them in their work. And what is, in my opinion, of much

more value, they can hardly be brought together in friendly personal conference for a week without a lasting impression being made on their minds how much better it is for themselves, for their art, and for their clients, to be united rather than divided. And surely it is well for our members (now a rapidly increasing number)—and it would be well for those architects of position who still, to my surprise, remain outside our society—to be able all to feel that there is in England at least one organised body to represent them in the world, to which they can appeal when in difficulty, and which, because it numbers among its members all who are really entitled to be termed architects, can speak with authority, to correct public errors of judgment, and to take a stand, if need be, in asserting the rights, interests, and honour of our profession.

As on former occasions, an anxious committee has worked hard to promote the success of this conference in obtaining communications of much interest, which will be brought before the meetings in this room, and which I cannot doubt will produce discussion of interest to all.

In the selection of the papers to be read here before you, I think that the committee have exercised a sound judgment in including subjects of practical working interest to architects; and while the paper now to be read deals with the artistic functions of an architect, the concluding papers on Friday next will appeal to him as antiquary and archæologist.

Arrangements have also been made, as will be seen by reference to the conference programme, to occupy a portion of each day with visits to noble collections of pictorial art, and to modern agricultural works in progress, which are of the greatest interest; and which latter we may, perhaps, dare to hope may not be deemed without merit by succeeding generations.

Let me, then, express a hope, present I am sure to the minds of all here, that this meeting may add its impulse to the promotion of that feeling of brotherhood, integrity, and honour, without which no real progress can be made, and no personal happiness can long endure."

After the conclusion of the President's address, a paper on "Mural Painting" was read by Mr. Edward Armitage, R.A., Hon. Associate. A discussion followed, in which Mr. Waterhouse, Mr. C. J. Phipps, Mr. Joseph Clarke, Mr. Street, Mr. George Aitchison, Mr. Holiday, and others took part. Mr. Armitage replied, and the Chairman, in closing the discussion, conveyed the thanks of the Conference to Mr. Armitage for his most interesting and valuable paper, which was unique in character.

On Tuesday morning, the 4th inst., about 200 gentlemen attending the Conference visited the works in progress of erection at the New Law Courts in the Strand. The visitors were received and shown over the buildings by the architect, Mr. Street, R.A., who explained many matters connected with their construction and progress.

On Tuesday afternoon the members of the Conference visited St. Paul's, where they were received by Mr. Penrose, the architect to the Dean and Chapter, who accompanied the visitors over the building, and gave all desirable information connected with objects of interest throughout, from crypt to dome.

On Tuesday evening, the Institute celebrated the conclusion of the ordinary architectural session by a dinner at the Freemasons' Tavern. Mr. Charles Barry presided, and was supported by a large number of fellows, associates, and honorary associates of the Institute, as well as several gentlemen attending the Conference, including representatives of kindred societies. A number of loyal and other toasts were proposed and responded to—Science and Art coming in for favourable recognition. The Institute dinner ended with satisfaction to all.

On Wednesday morning a large number of visitors proceeded to Dorchester House,

Park-lane, where the marble staircases and the numerous pictures and works of art formed objects of attraction and admiration. In the afternoon visits were made to Stafford House and Bridgewater House, St. James's, in both of which numerous art treasures were inspected.

At the Conference Meeting held on Wednesday, Professor Hayter Lewis in the chair, Professor Barff read a long and interesting paper on "Corrosion of Iron." An instructive discussion followed, in which several members took part.

On Thursday morning a visit was paid to the new Natural History Museum, South Kensington, under the guidance of the Architect, Mr. Alfred Waterhouse. At the Conference Meeting held on Thursday afternoon, Mr. J. Whichcord in the chair, a paper by Mr. J. Douglass Mathews was read, on "The Model Bye-laws as the Basis of a general Building Act." Some brief papers by Mr. Boulton of Liverpool and Mr. Honeyman of Glasgow followed.

At the Conference Meeting held on Thursday evening, 8 p.m., Mr. George Godwin, F.R.S. (Editor of the *Builder*) in the chair, some suggestive and valuable "Notes" by Mr. Arthur Cates, Fellow, were read on "Concrete and Fire-resisting Materials." A discussion ensued, in which several members gave their opinions and experiences.

The closing meeting of the Conference took place on Friday, but of the papers read and the discussions that took place on that day and on some of the preceding days we have not space to give full reports.

### THE INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

THE closing meeting for session 1877-78 of this body was held on Wednesday evening, the 5th inst., at the New Buildings, Trinity College,

ROBERT MANNING, Esq., C.E., in the chair.

The first business brought forward was the proposed purchase of new premises for the Institution, in consequence of the expiry of the lease of those held for some years at 136 St. Stephen's-green, and for which a considerable advance in rent was demanded. The Council recommended that the house 12 Molesworth-street, which can be acquired on a lease of which 54 years are unexpired, for a sum of £350, should be purchased, subject to a rent of £60, together with taxes of about £18 10s. The question of purchase having been submitted to the meeting, it was passed unanimously that the Council be instructed to carry out the arrangement.

A short paper, by Mr. Dorman, Engineer of the Cork and Bandon Railway, on "Armstrong and Dorman's Patent Facing Point Lock," was read by Mr. E. C. Smith, C.E., Secretary; and a lengthened discussion took place thereon. The paper stated that about 30 per cent. of the accidents which happened in the year 1876, and were inquired into by the Board of Trade, were caused by the partial opening of facing points, either from the wear on the bell crank pins and other connexions between the points and point lever, a spring in the rails, or imperfect ballast and packing. In addition to those noticed by the Board of Trade, there were hundreds of accidents which happened on the various lines during the process of shunting. The want of a perfectly secure and cheap lock to prevent these accidents, has induced the inventors to bring their lock before the public. The lock in this case is made by the wheel of the engine, truck, or carriage pressing down the point between the stock-rail and an iron block about 1½ in. high. On moving the point-rod the wheels roll up the grooves in the east-iron chair and lift the points, while the vertical stud on the point-rod moves through the slot in the tie-rod until the rollers have reached the top of the groove; the points being now raised higher than the blocks and the stud

having reached the end of the slot in the tie-rod pulls the point over the blocks and allows them to drop down at the opposite side. The principal advantages of this lock over any other are its security and cheapness—the former because it cannot be opened while a wheel is on the point from the breaking of the tie, point, or connecting rods, or by the failure of any bell-crank or other part of the machinery—and the latter as its cost, including the royalty, will be only about £2 in excess of points fitted with the ordinary lever, while the cost of the locks at present in use is about £10.

The chairman suggested that the author should, before the publication of his paper in the Transactions, supply details of the various descriptions of points in operation on railways.

### THE CONVERSAZIONE OF THE CIVIL ENGINEERS (LONDON).

On the 3rd inst. the fifteenth anniversary of the incorporation of the Institution of Civil Engineers was celebrated by a *conversazione*, held by the permission of the Secretary of State for India in the galleries of the India Museum, South Kensington, under the auspices of Mr. J. F. Bateman, President. There was a large and distinguished gathering, including ministers of State, professional, literary, and other representatives. As previously noticed, at this year's *conversazione* invitations were not extended to ladies, as in the few preceding years, but the former plan was adopted of inviting the representative men of the engineering, architectural, and kindred professions. On the evening of the 3rd the whole of the interesting and varied collections of the Museum were thrown open to the company, comprising numerous examples of eastern archæology, sculpture, architecture, arms, and of the different manufactures in precious and other metals, &c. The electric lights exhibited on the terrace overlooking the Horticultural Gardens attracted a good deal of attention, as also a beautifully finished model of an Armstrong Gun on a naval carriage, and a ship's signal lamp. Several recent inventions exhibited in the Queensland annexe, including the logograph, telephone, microphone, phonograph, and phonoscope excited much curiosity. The experiments on the two last-named instruments appeared to be successful, and afforded considerable pleasure. After a very enjoyable evening the visitors began to disperse, and the *conversazione* of 1878 terminated satisfactorily.

### THE BALFE MEMORIAL.

#### IRISH MUSIC AND MUSICIANS.

SINCE our last issue Sir Robert P. Stewart, Mus. D., Professor of Music in the University, has given a series of three lectures in the Ancient Concert Hall, Great Brunswick-street, in aid of the "Balfé Memorial Fund." The lectures were accompanied with vocal and instrumental illustrations. The subject matter of the lectures was very instructive and interesting, dealing with Irish music and musicians, harpers, organists, composers, natives of Ireland and foreigners resident for many years in this country. Several of the characteristics of Irish musicians, natives of Dublin, and connected with the choirs of both cathedrals, were detailed by the lecturer, and the illustrations of their songs were capitally rendered by the lecturer and his assistants. We trust that the proceeds of the lectures will be further supplemented by donations on the part of the lovers of Irish music, and the admirers of Balfé. We would like to have seen a greater memorial of Balfé forthcoming than what is being now in course of completion as we write. A marble bust of our native composer, designed for the National Gallery, though a small outcome of a movement promising well in the beginning, but unlucky in its conduct, is withal a recognition and a memorial to some extent of a

native musician who deserved a greater testimonial at the hands of his countrymen. Sir Robert Stewart's efforts in the cause of Irish music and Irish dramatic criticism (the latter at present infected with dry-rot in this city), deserve warm commendation.

### DWELLING HOUSES, COLLEGE GARDENS, BELFAST.

THIS terrace has just been completed, and occupies a very fine position on a private avenue in front of the Wesleyan College. The houses are of a superior class. The treatment is uncommon for town houses, the fronts being well broken up by bay and square windows, the latter having their roofs running back on main roof, and finished at top by bold wrought-iron cresting.

The exterior is faced with best perforated red brick, having blue ones introduced in bands and arches. The stone used is from the Scrabo quarries; the hood mouldings of doors have carved bosses, and the columns at sides of entrance doors are of Bessbrook polished granite, having moulded bases and richly-carved caps of stone. The sashes are filled with plate glass. From their superior arrangement, accommodation, and finishing, these houses are already commanding high rents. They were erected by Messrs. H. and J. Martin, contractors, in their usual satisfactory manner, according to the plans, designs, and under the superintendence of the architect, Mr. William Batt, jun., of Donegall-place, Belfast.

### OUR SEA AND HARBOUR MARKS.\*

IRELAND, acting as it does, in a great measure, as a breakwater against the violence of the Atlantic, and also as a land-fall for all the great traffic of the New World, presents more salient points—than, perhaps, any other country—of danger to “they that go down to the sea in ships that do business in great waters.” This fact has caused a more than ordinary care to be employed in marking her coasts, and the exercise of a wise discrimination unsurpassed in the solving of the problem of what might be a sufficiency of markings for safety without causing a liability to confusion by having too many. The difficulty of this solution can be easily realised by any person who would cross the Channel at night, more especially if the weather were at all thick or hazy; and to the natives of Great Britain and Ireland, and indeed to those of her Britannic Majesty's dominions generally, the methods employed for the guidance of the mariner must always possess a great amount of interest.

Since the commencement of the century many systems of marking have been devised, and although the necessity for rendering certain points of land conspicuous had long been felt, and the Pharos of Alexandria, in Egypt, which guided Julius Cæsar on his voyage from Troy; the Tower of Hook, in Ireland, supposed to be erected in the twelfth century by the Queen of Ross, sister of Strongbow; the Roman Tower, at Dover (the date of erection of which is not recorded, but which was probably, from certain indications, cœval with that of the Tour d'Ordre, of Boulogne, or *Turris Ardens* as it was more anciently called, on the opposite coast, and which is known to have lighted the fleet of Commodus in some of his victories over the Britons about A.D. 190), and the Inch Cape Bell, in Scotland, may be instanced as samples of what was done when the science of marking was in its infancy. It is only, comparatively speaking, of late years that the lighting of our coasts has engaged the attention of the scientific man.

Within the last eighty years the methods in use were of the feeblest, and any records existing are so imperfect—as to date—that it is difficult to rely on them.

In the museums of South Kensington, of Edinburgh, and the department “Des Phares,” in Paris, specimens of the old methods of increasing the light from candles or oil flames can be seen, and it is much to be regretted that no such examples exist in Dublin, although there is no doubt that Ireland kept pace with the older methods, and has latterly, in the gas illumination, outstepped the other countries, and has ample means for such an exhibition at the disposal of her Lighthouse Commissioners.

If permitted by the Editor, I propose to give a description of the several arrangements of lighting and increasing the light, and also of the different beacons and buoys in use, with the fog signals; and, in fact, of all the means now employed to guide the mariner to safety, with an account, from time to time, of the several great establishments that have been erected for the habitation of the officials engaged in the service and the carrying out of it efficiently, and which, being generally in remote places, are outside the ken of the public. In this, I trust, I may claim some superiority for my information, as being an old worker in the field, and not merely a writer from observation.

The lighthouses, lightships, beacon towers and perches, buoys and fog signals of the United Kingdom are immediately under the superintendence and authority of the Trinity House of Deptford, Stroud, for England; the Commissioners of Irish Lights, for Ireland; and the Commissioners of Northern Lights, for Scotland, the Board of Trade exercising authority over all. In the adoption of a new mark to a locality, the Irish and Scotch boards are required to consult with the Trinity House, and no expenditure can be permitted, or contract undertaken, without the sanction of the Board of Trade, and agreement of the Trinity House with the other Boards. A rule having too much of *red tape* in its composition to be always productive of good to the public service, especially as two of the boards consist of unpaid gentlemen, who scarcely care to go to the trouble of arguing a point, and however otherwise *sans peur et sans reproche*, are not at all scientific in their proclivities. But the worst effect of this is the extreme tardiness sometimes exhibited in marking dangers, for instance, the Galley Head on the south coast of Cork, the long-talked of Coningbeg, in Wexford, and Fanad Point, in Donegal.

From all we can learn it appears that a fire of coal or peat burned on a height was the ancient method of illuminating the coast; nothing of the kind was attempted on rocks, and lightships were unknown. The situation chosen was sometimes, as at Howth, on the top of the mountain where a large recessed hearth-stone of granite was used without any building; but at Howth this was discontinued when candles were substituted, and the light exhibited from a lantern on a small hexagonal tower, which was abandoned on the erection of the beautiful structure on the green Bailey. At the old head of Kinsale, Loophead, Hook Tower, Clare Island, and Cahirdaniel curious remnants of the cinders from the fires can be found, the iron ore in the bog turf being fused into clinkers of most fantastic forms, and a gentleman in the County of Clare has utilized remains of the old fire of Loophead in making grotesque chimney-pieces, gato pillars, &c., to his shooting lodge.

Perhaps the most ancient remains of a genuine lighthouse tower in Ireland was at Youghal, in the County Cork, attached to the Convent of St. Anne's, to the care of the nuns of which it was confided by Maurice Fitzgerald, Baron of Ophaly, in 1232; this interesting structure was removed in 1848 to make room for the present lighthouse—an act of most uncalculated Vandalism, there being ample room for the new building. The tower was joined on to the convent at the eastern corner; it was circular, of rude though strong rubble masonry, 24 feet to

the springing of the roof, of which in my time there was no portion remaining; interiorly it had a spiral stone stair that terminated beneath two large circular-headed windows which faced in the direction of the fairway channels of the harbour (there was no window on the tower or land side), and at the base was a pointed doorway by which the attendant could gain access without intruding on the convent. The gardens of this establishment, now belonging to the lighthouse, are traditionally said to be the site of the first planting of the potato in Ireland by Sir Walter Raleigh, whose dwelling-house in the town, when Mayor of Youghal, 1588, is in excellent preservation, and now the residence in Ireland of John Pope Hennessy, Esq., Governor of Hong Kong. *Sic transit gloria mundi!* There is no means of knowing how this tower was lighted, but it is on record that Fitzgerald largely endowed the nunnery to provide for its maintenance, “in order to promote trade and insure the safety of mariners frequenting the port.”

When coal fires were abandoned on the coast two methods appear to have been in partial use contemporaneously, viz., the lens and the reflector, the former to assist the light from candles and the latter that from oil, principally sperm oil. These lenses, of one of which I possess a portion, were composed of glass of an astonishing purity for the time, their diameter being about 24 inches and greatest thickness 9—the amount of light lost by absorption must have been great, and also by aberration, the candles burning rapidly out of focus, and so it was soon found that the lens system was more an evil than a service. To judge of the specimens of early reflectors, which are to be seen in Edinburgh and South Kensington, their composition was a rare piece of beautiful ingenuity, but beyond this they could have been little better than the lens; they were composed of a mould of cement truly formed to a parabolic curve, and faced with a great number of bits of looking glass, which being each a portion of a plane only served to disperse the rays from the very imperfect oil lamp instead of collecting them in the focus of the mould. In many instances these were in turn displaced by very large reflectors of zinc, but these changes were by no means simultaneous, and it took many years to introduce the silvered reflector and Argand burner, which is attributed alike to the inventive genius of Teulère and Argand; but while to the former there is little doubt the merit of the reflector belongs, the double-drafted burner is as assuredly the production of the latter, and the use of it brought oil as an illuminant into thousands of dwellings where it was before unknown.

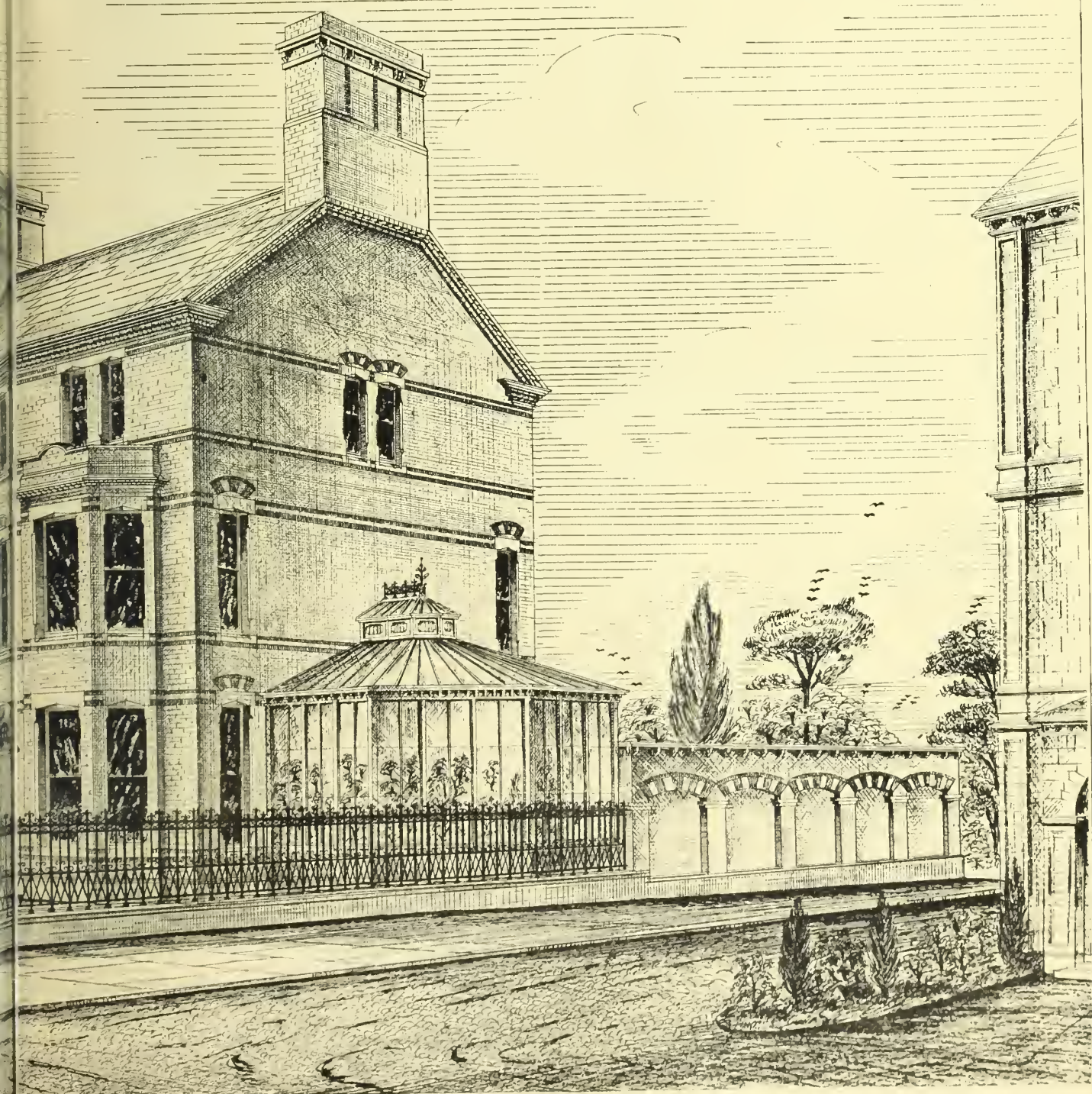
In oil lamps before Argand's invention the combustion was most imperfect, and consequently the smoke generated caused them to be unsuited for domestic purposes, and we can easily suppose how blackened and injured any reflector would be even after a few hours' use; but early in the century several elegant lamps were designed, of which the Penumbra lamp may still occasionally be met with, although it has given place to the Moderator lamps, and the burning of mineral oils and gas.

Till within the last five-and-twenty years fish oil, principally that of the sperm whale, was the illuminating medium, but from a scarcity of supply and consequent increase in price other sources were sought, and now the several Boards of Lighthouse Commissioners use for their purposes gas, lard oil, olive oil, rapeseed oil, and paraffin or mineral oil. From the superiority of the flame from the rapeseed oil, and its increasing cheapness as also its cleanliness and freedom from offensive smell and non-liability to accident, it is probable that it, with lard oil and gas, will shortly be the principal means of lighting our shores. Although paraffin oil is used partially in England and Ireland, wholly in Scotland, France and Canada, it cannot be said to possess any merit but the very questionable one (where life and property are concerned) of cheapness, and this it is rapidly losing; and

\* Written for the IRISH BUILDER by an old Lighthouse engineer.

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it is hardly creditable for any authority or governing body to insist on the employment of such mediums in situations where the quantity required causes an effluvia most offensive to the otherwise severely-taxed employes, for a lightkeeper's life is not at all on a bed of roses—a fact that those in authority sometimes lose sight of, and the danger from such highly inflammable matters, especially to female lightkeepers, is too serious to be placed in comparison with a questionable economy.

In addition to the improvement in the burner of the oil lamp by M. Argand many modifications of the chimney glass have been from time to time introduced, having for their object the intensifying of the flame, and consequently the light, by the contraction of the glass, at a distance above the top of the burner, regulated by the medium burned; but this has not as yet been as well determined as it should, the best attempt being that of the Messrs. Farquhar, whose patent burners give contracted flames of great intensity, at the same time that the upper portion of the chimney is permitted to swell above the flame for the speedier escape of the heated air, by this means much of the loss from breakage of lamp-glasses is saved, and what would otherwise be a doubtful matter of increased number of wicks reduced to the certainty of an improved flame.

In the very weak and uncalled-for attempt made by those who would sustain the use of oil at any price, as against gas, six-wicked burners were adopted, but the generation of heat was so great that the breakage of glass was very serious, especially as they could not use the patented Farquhar chimney or methods of ventilation, without which the intensity of the draft caused the immense flame to impinge upon the upper part of the glass cylinder with ruinous effect. A few of these, notwithstanding, are supplied as spare lamps at Hasborough, Galley Head, and some others of the gas houses, but as the gas has rarely failed they are not likely to be required, but no mere prejudice or "Home Rule" should prevent the use of the Farquhar or any burner where the saving of life is the object, and the best light the desideratum. The method of the contraction was also for many years an unsettled point, and the square shoulder remained on the smaller lamp glasses in several countries, until the importance of the ogee-shaped contraction was shown by the investigations of the Royal Commission on Lighthouses in 1860; from some slight difficulty in the making of the glasses, the square shoulder still continues in all chimneys of lamps in domestic use, and is not a matter of such moment as if the flame were reflected from a focus, as in the Catoptric lights of the coast.\*

To the burners of the lamps described, the supply of oil was from fountains, on the familiar principle of the bird fountain, which for the smaller burners used in the parabolic reflectors, is sufficient; but it was early discovered that a greater flow of oil was requisite for the multiplex burner of Rumford, as improved by J. A. Fresnel, in connection with his polyzonal lenses; and to supply the want M. Carcel invented his mechanical lamp by which a constant, but over supply of oil is thrown up by means of most ingeniously-conceived pumps to the burner, where having supplied the wick, it returns in a minute stream to the fountain which is beneath the burner, and does not as in the earlier apparatus interfere with any portion of the light. These lamps have always since their invention found great favour in France and Scotland; they have been rarely used in the lighthouses of England, and never in Ireland; in the latter country, the Dioptric lights were supplied with the fountain lamps of the late Messrs. W. Wilkins and Co., of Long Acre, and one Pneumatic (Heron fountain) lamp, from same firm in the focus of a Dioptric apparatus made by Messrs. Cookson, of Newcastle; unique in its way. Since 1862,

when Mr. Sloane invented his pressure lamp, by which the fountain lamps hitherto in use could be (without removal) furnished with all the advantages of the Moderator, nearly all the larger houses are supplied with pressure lamps by various makers, the largest of which has been supplied by Messrs. Edmundson and Co., of Capel-street, Dublin, and George's-street, Westminster, as spare lamps for the Galley Head Lighthouse, which is the finest in the world.

Of lighthouse illuminants there still remain to be described two great systems, gas and electricity; of the effect of the former, Londoners can judge of what it is in a modified degree, by seeing it shining from the Clock Tower of Westminster during the sittings of Parliament, and the Dublin people in all its splendour from Howth Bailey; of the latter there is not such facility for observation, they will, however, each require a more lengthened description than can be afforded to them at present, and they are of consequence sufficient to merit a separate article.

### CORK HARBOUR WORKS.

THE Harbour Commissioners had under consideration on Wednesday the monthly report of Mr. Barry, their engineer, with regard to the progress of the construction of the deep-water quays at both sides of the river. The report not being deemed altogether satisfactory by the commissioners, Mr. Scott made a statement on the position of the board with regard to the works. £6,262 had already been expended at the south side, exclusive of plant, which cost £1,140. They contemplated spending on the north quay £36,000, and they had already expended £8,579, and though they had to-day only 16 blocks out of 800 in their places, they had the claims of the Great Southern and Western Railway Company to face if they had not the work at the north side finished within the time prescribed by their Act of Parliament. He advocated abandoning the present system of leaving the works in the hands of their own officers and giving them to a contractor to finish. His ideas were favourably received by the board, and he gave notice for the next meeting of his intention to move that their engineer should furnish them with specifications and the probable cost of doing the remainder of the work by contract.

### A "MODEL" CHURCH "RESTORATION."

In the name of the Prophet, Figs, to what lengths and in what direction will the wildfire of mischievous restoration next run? We give below a portion of a notice in an Irish newspaper description of the "restoration" (bless the mark!) "of Aghadrumssee Church, County Fermanagh," and, mark ye, Irish and English architects, and professional and general readers, this restored church was erected a little over half a century ago, and of course was one of those bald and *jéjune* specimens of the architecture of the time, so common in country districts. Read, and inwardly digest the following graphic details:—

"The church was erected about 1820, A.D., as a chapel of ease to the mother church of Clones, and up to the disestablishment was served by the curates; afterwards it was created a new parish. The church is a plain structure with a square tower, and about twenty years ago, to meet the requirements of the district, a gallery was erected at the west end. There was no chancel, and the unsightly high-backed pews did not give room for the true spirit of divine worship according to the ideas of the Church of our fathers. The Rev. Henry Moffatt was instituted minister of the district in 1875, and he has been enabled to make the church and its surroundings, in many respects, a model worthy of imitation. After three years' earnest work employed in restoration, the church was re-opened on Wednesday, May 29th, when a large congregation assembled to take part in the interesting ceremony at five in the afternoon. The open benches are the gift of John Richardson, Esq., Q.C., J.P., Summer-hill, whose family for years worshipped here, and have been benefactors to the district. A monument of the generous and considerate thoughtfulness of Miss

Georgina Richardson, of Summer-hill, will remain for ages, that is, the erection of the clergyman's house, at her own proper cost. It stands on a gentle eminence, commanding a fine view of the Fermanagh lakes and Cavan mountains. The churchyard contains the family burying-place of Mr. Richardson, and to his memory is placed a marble tablet in the nave of the church. A new chancel in exact proportion to the nave has been erected, at the cost of his Grace the Lord Archbishop of Armagh. A new prayer desk has been erected at the north side of the choir, and in the south side an open pulpit, with a moveable brass desk, the gift of Miss Hamilton, of Oakfield. In the centre stands a massive polished brass lectern, with the following inscription:— 'Sacred to the memory of my mother, who fell asleep in Jesus, December 12th, 1877,' and is the work of Jones and Willis, London. An organ chamber has been erected at the north side, for which a new organ has been built by Benson of Dublin, and is the gift of a lady."

And so on. We will not wonder in the least if we soon observed an imitation of the washerwoman's announcement of "Mangling done here," or the shoemaker's shop sign improved upon thus: "Restorations promptly attended to in town and country." There are other things besides boots and shoes that require "restoring," or heeling and soleing, but perhaps in regard to churches and congregations we should write it *healing and souling*. Verily, it is a good time for rectors and curates, and "Jacks-of-all-trades," but for architecture and art—well, the honest representatives of the profession can anticipate what is left unsaid.

### PREVENTION OF GAS EXPLOSIONS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The appalling accounts that we are almost daily receiving of the loss of life from explosions of gas in coal-mines and on board ship, are in themselves sufficient to make one endeavour to devise something of a preventive or remedial nature, and I beg with your permission to offer a suggestion of the time former.

Explosions from gas, either in mines, ships, or buildings, are caused by fire of some description, whether a candle, match, or uncovered Davy lamp, being brought in contact with a quantity of the explosive medium which has accumulated; but it is well known that if a light is kept burning in a building where gas, from whatever cause, may be escaping, that, although otherwise the contact might be disastrous, the inflammable matter is gradually consumed and rendered innocuous.

I would suggest that in coal-mines the ventilating furnace at the bottom of the "up-cast" shaft be provided with a retort or retorts fitted in the simplest manner, and that gas be made in the ordinary way (the purifiers being dispensed with) and stored in one or more gas-holders in convenient situations in the workings; from these, main tubes with subsidiary branches of flexible metal could be carried at a mere nominal expense to the different points where the destructive gas was likely to generate, and where a flame (which need not be large) would be kept constantly lighted up, so the miners could be instructed in the use of a "copper bit," and the easiest method of fixing the burners which might be made for the purpose, and need not be larger than the end portion of a cedar wood pencil; some hundreds of these distributed through the galleries would without doubt be a great preventive, consuming the inflammable gas as quickly as generated, and the colliery owners would without much additional expenditure largely increase the safety of the workings and

" . . . . . Take arms against a sea of troubles,  
And by opposing end them "

The remedy may savour of the homoeopathic, but still be not the worse on that account. Should the idea be worth insertion and, through your kindness and widely-spread journal, the humble means of preventing, even in a degree, a dreadful catastrophe, I shall feel more than gratified.

JOHN S. SLOANE.

Clontarf, 12th June, 1878.

\* It may not be amiss here to say that the great glass houses of England generally fall in this manufacture, and the best chimneys I have seen are from Messrs. Pugh, of Dublin

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

THE late John O'Donovan, our distinguished countryman and Celtic scholar, wrote in the *Irish Penny Journal* of 1840-1, a series of able articles, illustrative of Irish family names, their origin, changes, and the corruption they had been subject to up till his time, particularly on the part of Irishmen who migrated to the sister kingdom, some of whom appeared to have grown ashamed of their fine old names, and as a consequence disguised them by a different spelling or Anglicised them. Had John O'Donovan lived till the present hour, and were he disposed to treat the subject more exhaustively, he would be able to make many fuller revelations of the recreancy of several of his countrymen.

It is laughable to observe the efforts made by some native Irishmen in Dublin, and in some of the provinces, as also in London and other cities and towns in England and Scotland, to disguise their native origin. In numerous instances it will be found the O and the Mac have been dropped, and in Irish names, without either of the above prefixes, the letter *c* is in some cases substituted for the letter *a*, and in other instances where double letters occur one is eliminated. Names so treated will occur to many, and it is needless to enumerate them. Centuries ago intermarriages between the Danish, and subsequently the Anglo-Norman settlers and the native Irish introduced many names still existing, some of which have slightly changed in the course of years. The same names occur, but with a different spelling, in the four provinces; and the diversity in the spelling appears to have arisen through the different pronunciations. Names which are spelled alone from sound are in many cases different from those which are not liable to be effected from other causes.

We are told by some authorities that the first appearance of the Norsemen and Norse rovers upon the coast of Ireland was about A.D. 794. From this period until the eleventh century Ireland was subject to their aggressions, and Norse names on our northern and other seaboard occur frequently, showing distinctly the influence of the Scandinavian element at one time in this country. The O'Neils and the O'Canhans in the north of Ireland intermarried with the white strangers, that is, the native women were wooed and wed by the Scandinavian rovers. There was also the family of the O'Heochaidh, now generally known as Hoey in Ulster and Leinster. This family for a long period held chief sway in southern Dalraidhe. MacDonlevy of the same branch was King of Ulster when De Courcy came to Downpatrick. After the eleventh century the Danes disappeared, save those who through intermarriages became as Irish as the Irish themselves. Ireland was next subject to the influence of the Anglo-Norman invaders about 1172 in the south, and in a few years afterwards in the north. We read that in the month of February, 1177, the famous De Courcy made his appearance in Downpatrick with 300 followers after a march of four days from Dublin. MacDonnsleibhe, O'Heochaidh (MacDonlevy or Hoey), the then king of Ulster, fled from Down at the approach of De Courcy, and in a short time the surrounding country was subject to the latter. De Courcy was a native of Chester, and was married to a daughter of Godfrey, the Norse King of the Isle of Man, opposite the coast of Down. Without entering into minute details it will be seen that the family of the O'Heochaidh are of mixed Celtic and Danish blood. These relations, it is stated, may account for De Courcy's selection of the northern locality mentioned for conquest.

In the "Book of Howth" (Carew MSS.) we have the following description of this famous invader:—"John was a man fair and white of limbs, body bony, strong, and big, none harder than he, nor none so strong that durst fight with him. In every fight he would be the first, and in the perilous place ever would be . . . .; out of weapon,

nevertheless he was meek and sober, and worshipped God much and holy church, and in all things he loved God and His service, and all that befell of him he gave God thanks for the grace that He sent him. He spoused Godfrey's daughter, the King of Man. And after many perilous battles that he did not without great labour and peril of life and much mischief, at last he overcame all the country, and castled the land in convenient places, and such places made that none better might be steadfaster. But great wonder is, and not but as pleases God all things must be, these four great posts of the conquest of Ireland—Robert Stevenson, Harvey of Mountworthy, Raymond de la Gross, and John De Courssy—might never have children by their married wives."

It is not necessary here to follow the conquests of De Courcy for the several years he held sway in the north. We only touch upon his life and career for the purpose of shewing the influence of the Anglo-Norman element in this country. It is stated in a recent work on Belfast that the Irish element in Antrim, as determined by existing names, is under twelve per cent. of the population; that the proportion in Down is similar. The native races are said to inhabit chiefly the mountainous region and the glens of the north-east of Antrim, along the shores of Lough Neagh, and the neighbourhood of the Mourne Mountains. The highland element is by the same authority said to be greatest on the north-eastern shore and in the glens of Antrim, amounting to over twenty-three per cent. of the population.

The following extract is worthy of notice in reference to the real origin of the highland element above-mentioned:—"These invaders were doubtless part of the old Dalriadic colony who settled in Scotland in the sixth century, and returned with the MacDonnells in the fifteenth and following centuries to possessions which had been occupied by their forefathers. The similarity of the personal names they imparted to those current among the natives of the north somewhat confirms this opinion. Thus we find MacRorries, MacNeills, MacConnells, (i.e. MacDhomhnaills), MacCaughy (c.f. Irish O'H-Eochaidh) [or Hoey], MacCann (c.f. O'Canh), Dougals or Doyles, &c., current among them as among the septs of Ulster."

In the province of Leinster, particularly in Lenth, Dublin, Wicklow, and Wexford, similar traces may be found. In the district of Fingal, in the northern portion of Dublin, and the adjoining counties Danish and Anglo-Norman names exist in numbers—some greatly changed owing to lapse of time and corruptions. The subject under notice is a very interesting one, but a more comprehensive discussion would lead us too far afield.

A few words more pendant to the above might be added in respect to changes of Irish names, particularly in the sister kingdom. During the present century large numbers of the labouring classes, in search of employment, passed into England, Wales, and Scotland, most of whom were uneducated, and many of whom did not know how to either read or write. These workmen found employment in mines and factories, on railways and other works in England and Scotland. Their time-keepers and pay clerks entered their names on their pay sheets as they were told, choosing their own way of spelling from sound alone. When the uneducated Irishman's children grew up in the sister kingdom they spelled their names, even when they received some schooling, in the same way as they found their fathers' names spelled by those whom they had any dealings with. Changes of Irish names, occurring from these causes, or through ignorance, is pardonable, both in the case of those possessing some education, but afflicted with a pinch-beck mania for aping the fashions of strangers, and otherwise wishing to be thought one of the same race, changes of name is a sign of self-abasement that is unworthy of their country.

We know great prejudice existed some

years ago in England and Scotland against the poorer classes of Irishmen, and prejudice, to some slight extent, still exists in cities and towns in the sister kingdom. We have known men to confess they were forced to change their names, and, in some instances, to deny that they were natives of Ireland. If there ever existed a necessity for so doing, we think such necessity no longer exists, and to those who are descended from an Irish stock and living in the sister kingdom, we would say—resume at once your ancient names, nor be ashamed of them. The name of O'Mahony, Murphy, or O'Looney is quite as noble as a Fortescue, a Greville, a Hamilton, a Chichester, a Churchill, or a score of other names acclimatised to Ireland, since the "Plantation of Ulster."

Nails are very handy articles, and so are pins, particularly to the lady portion of the human family; but of late years we have had quite too many nails in carpentry and joinery, ay! and in cabinet-making. A young lady, to save herself the trouble of a few stitches, will use half-a-dozen of pins. Indeed, some of our modern ladies, from shoe-buckle and garter to head gear, are encased in nails. Call in the "handy man" or Jack-of-all-trades, and show him a gaping mitre, an open joint of any kind, a splinter, or a broken off piece of wood, and he is prepared in a minute to effect a cure by the aid of a hammer, a nail, or a wood screw. Some of our modern cabinet-makers, from whom we might expect better, are also too prone to drive a brad to bring together the shoulder of a tenon and the face of a mortice. The glue pot is too often discarded, and the insertion of a small wedge, and the reframing of the parts asunder. The slip-slop slap-dash system now in vogue among jobbing joiners and cabinet-makers is a disgrace to the age; but jobbing work in nearly all trades is subject to the same scamping system. There are chairs and arm-chairs, sofas and side-boards, nests of drawers and dressing-tables, basin-stands and cabinets now put together by manufacturing cabinet-makers in London that deserve the most sweeping condemnation that it is possible to bestow upon the work and the manufacturers and sellers. We would undertake to go into a score of shops in London and also some in Dublin selling imported furniture, and prove in five minutes that the articles they sell are a fraud upon the public in joinery and upholstery, and their sale is an obtaining of money under false pretences, which ought to be put down by the strong arm of the legislature.

We have of late taken particular attention to classes of household furniture manufactured in London for both the English and Irish markets, and we promise the manufacturers that we will on an early occasion give a thorough exposure of the methods of construction and finish adopted by them. We will expose their flimsy dowelled (single dowelled) chair rails, legs, and arms, and their nailed and screwed cabinet and chair work, in many instances put together without one mortice or tenon. We do not say that dowels are not indispensable in some cases in cabinet and chair work, but they should be used properly. Brads and putty—red, black or grey as the circumstances may require—are now extensively used by our model London cabinet-makers; and work so manufactured is largely imported here.

We regret to say very little good cabinet, chair, or sofa making, or upholstery, is now in the market. Dublin was once famed for turning out splendid and durable cabinet and chair work, and the little remnant of the honest portion of the trade left us at present is being yearly injured by the character of the imported work. Gandy (to the eye) upholstered suites of drawing-room furniture are so flimsily got up that six months' wear is sufficient to show their bad quality in all the materials composing them. Tables and chairs for which a very high price has been

exacted, walk asunder after a few months. Verily the reign of rot and corruption has attacked a once respectable trade. More anon. H.

### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

We have once more to follow Dawson to the little theatre in Capel-street, which proved so fortunate for him on previous occasions. After some reparations and decorations, and getting together of a fair company—some new performers, and others gained over from the opposite party,—Dawson, after some little delay, opened the Capel-street house on the 23rd of November with Cumberland's play of the "West Indian." The following is a copy of the play-bill of the opening night:—

"By his Majesties Servants.  
At the New Theatre in Capel-street,  
This present Evening, 23rd of November, will be acted a  
Comedy called  
THE WEST INDIAN.  
BELCOUR, the West Indian, Mr. Kennedy,  
From the Theatre Royal, in Richmond, being his first  
appearance on this stage.

|  |               |
|--|---------------|
| STOCKWELL ..                                       | Mr. Mitchell  |
| CAPTAIN DUDLEY ..                                  | Mr. Holcombe. |
| ENSIGN DUDLEY ..                                   | Mr. Leighton. |
| Being his first appearance on this stage.          |               |
| VARLAND ..   | Mr. Gaudrey.  |
| FULMER ..  | Mr. Stewart.  |
| STOKELY ..   | Mr. Richards. |
| MAJOR DENIS O'FLAHERTY ..                          | Mr. Dawson.   |
| CHARLOTTE RUSPORT ..                               | Mrs. Brown.   |
| Her first appearance in this city for three years. |               |
| LADY RUSPORT ..                                    | Mrs. Gray.    |
| MRS. FULMER ..                                     | Mrs. Maxwell. |
| LOUISA DUDLEY ..                                   | Mrs. Barry.   |

A new Occasional Prologue, written by a gentleman of this city, to be spoken by Mr. Owens.  
End of Act 2nd, solo concerto on the German flute by  
Mynheer Schertie.

With a Farce called  
FONDLEWIFE AND LETITIA,  
Altered from the Old Bachelor by Mr. Sheridan.  
FONDLEWIFE .. Mrs. Mitchell.  
BELCOUR .. Mr. Hallien.  
VAINLOVE .. Mr. Hallier.  
WITTO .. Mr. Gandry.  
BARNABY .. Mr. Holcombe.  
LETITIA .. Mrs. Brown.  
The house will be illuminated with wax.

N.B.—Half price to be taken after the third Act, according to the established custom of the theatres in London."

The above play-bill is somewhat characteristic of the period, and the announcement made in the N.B. shows the adoption of the half-price system in Dublin, which, however, varied in later years, and did not commence till nine o'clock, or after the conclusion of the first play.

Of the success of the first night at Capel-street we will let an authority, often quoted, tell:—"Mr. Dawson had many friends, who in this emergency displayed their attachment. The house was crowded, and the entertainments went off with much applause; though the prospect of the first night could not warrant his entertaining any great expectations of success, yet still hope did not desert him. Every exertion possible he used to gain an equal share of public favour, and adopted the principles of Portius in "Cato":

"Tis not in mortals to command success,  
But we'll do more—deserve it."

The same authority just quoted supplies us a list of the greater part of the performers comprising Capel-street company at the commencement of the season—November, 1773. It may not be amiss to reproduce their names here, as it will afford some estimate of the abilities enlisted, and how far they were entitled to public patronage. We may remark at this date that with few exceptions the names of the performers have died with their generation, and are not remembered now in connection with any remarkable power of acting, though doubtless several of them in their day achieved a degree of reputation in personations that pleased the tastes of our play-going citizens in the last century:—Dawson, Dawson, jun., Jackson, Owens, Kennedy, Mitchell, Lestrangle, Durraven, Durraven, jun., Tyrrell, Hallion, Holcombe, Leighton, Barrett, Stewart, Tyrer, Gaudrey, Richards, O'Neil. The ladies included the following:—Mrs. Jackson, Mrs. Dawson, Mrs. Barry, Miss Danby, Mrs. Grey, Mrs. Durraven, Miss Ashmore, Mrs. Barrett, Mrs.

Maxwell, Mrs. Smith, &c. Shortly after we read of accessions to Dawson's company in the arrival of Mr. and Mrs. Simpson, from the Norwich theatre, who made their appearance at Capel-street as Sir John Melvill and Fanny Sterling in the "Clandestine Marriage." The lady, we are told, was capable of "supporting a very extensive line of business in tragedy, comedy, opera, and farce."

Throughout the course of our Notes in connection with the Irish Stage we have noticed several actors and actresses of rare powers, and others with very respectable and varied abilities. Indeed among the latter class we have met with names which deserved fuller recognition than they have received at the hands of their contemporaries or successors. In a very useful compilation published a few years ago in London, entitled "Representative Actors," by W. C. Russell, notices from various hands are included of memorable performers, Irish and British, but there are many omissions of Irish names, and some English ones too, who were well worthy of being included in the list of representative performers. Indeed a work on Irish representative actors and actresses is desideratum, and we hope the want will be supplied before long. Most of the managers of the Dublin theatres, from the days of Ashbury to those of Calcraft (Cole), were good actors as well as managers, and the majority of them, if not all, are well entitled to a place among the list of representative actors.

We are of opinion also that in Mr. Russell's book are included a number of English names who were or are not entitled to be considered representative of the profession, unless a few little oddities or eccentricities of character or personation are considered sufficient to qualify them for a place among their more distinguished brethren. We are not clannish, and we claim a higher place for some English as well as Irish performers than has been accorded them. We can only speak on the authority of others as to the merits of actors and actresses who have lived before our day; and we find towards the close of the last century and early in the present there were many able and versatile performers, Irish and British, connected with the Dublin stage, whose names are entitled to an elevated niche in the annals of the stage, but who for some unaccountable reason have been overlooked. Take the instance of Mrs. Simpson, an English actress whom we have mentioned a few lines back. Here is what Hitchcock says of the lady, and Hitchcock, from his qualifications and position in connection with the Dublin Theatre Royal and previously with the English theatres, is entitled to a hearing:—"Mrs. Simpson, formerly Miss George, was a most valuable acquisition [to Dawson]; with a delicate elegant figure (but rather under the size essential for a large stage) and a beautiful expressive countenance, she possessed abilities which have since commanded the first situation in every theatre she has been in."

Succeeding Sheridan in the management of the Dublin theatre we have had Brown, Barry, Mossop, Dawson, Ryder, Daly, Jones, &c.; but though Sheridan (Thomas) and Mossop and Barry are included in the list of representative actors in English works on the stage, we have only incidental notices of the others—all capital performers, and some of them possessed of very rare and varied abilities, equally good in tragedy and comedy. Mr. Simpson was the brother of Mrs. Inchbald, an English authoress of note in her day, whose husband was an actor, and who for some time herself acted on the stage, and wrote several plays and some novels. We read that Mrs. Inchbald wrote her autobiography, for which £1,000 had been offered and refused by her, and which, by her request, was destroyed at her death. Borden has, however, left us a memoir of her which is far from being as interesting as his other works in the same line.

Ryder engaged Mr. and Mrs. Simpson towards the end of the season, and they remained with him in Dublin for some time. A young actor named Robinson made his

appearance on the Capel-street boards; he was a native of this city, and made his *début* in "Mungo," in which he acquitted himself with credit. He remained a few years on the stage, and subsequently played in the English provincial theatres of York, Bristol, &c. After some time Robinson had farewell to the stage and resumed the practice of the law, for which he was originally intended. It is said that he achieved reputation and success at the English bar.

At Capel-street Dawson had to fight a hard battle in his contest with his stronger rival at Smock-alley, who had a larger theatre at his command and a more powerful company; but whatever energy could do the Capel-street manager essayed. At great expense and with care he got up the "Jubilee," introducing Astley and his performers, who were at that time exhibiting in Dublin. This engagement brought some money to Dawson. He next produced the "School of Wives," then acting in London, putting it on the Capel-street boards ten days before Ryder could present it at Smock-alley, although the manager of the latter house kept informing the public it was in rehearsal, and would be produced in a most perfect state. Dawson's expedition in producing the play was of material advantage to him. When Ryder had the piece ready for acting he announced it under the sanction of the Earl of Harcourt, the Lord Lieutenant, and it ran for seven or eight nights to good houses. The following was the cast of the play at both theatres:—

|                  | Capel-street.  | Smock-alley.    |
|------------------|----------------|-----------------|
| BELVILLE         | Lestrangle.    | Wilks.          |
| GENERAL SAVAGE   | Mildil.        | Heaphy.         |
| CAPTAIN SAVAGE   | Kennedy.       | Fleetwood.      |
| LEESON           | Layton.        | Sparks, jun.    |
| TORREINGTON      | Holcombe.      | Vandermere.     |
| SPURCE           | Dawson, jun.   | O'Keefe.        |
| CONNELLY         | Dawson.        | Ryder.          |
| MISS WALSHINGHAM | Mrs. Simpson.  | Mrs. Sparks.    |
| LADY R. MILDEW   | Mrs. Durraven. | Mrs. Lee.       |
| MISS LEESON      | Miss Danby.    | Mrs. Miell.     |
| MRS. TEMPEST     | Mrs. Maxwell.  | Mrs. Brown.     |
| MAID             | Mrs. Barrett.  | Mrs. Price.     |
| MRS. BELVILLE    | Mrs. Moore.    | Mrs. Fitzhenry. |

Dawson's energy and industry, evidenced against great odds, was evidently feared, for it was thought it would make headway despite his difficulties. A conspiracy was certainly hatched to work him ill, for in the very midst of his struggle and without the least notice eleven of his company one morning in January left him and went off in a body to the town of Portarlington. The revolt, with the assistance of a few others, formed a company and opened a small temporary theatre in that town. The secession was a sore blow to poor Dawson, for, although the seceders included few of any distinguished merits, yet the manager could ill spare a diminution of even one of his company in such an abrupt manner. A martyr to circumstances, Dawson's days at Capel-street were numbered. Superhuman efforts, though made, proved of little avail; and the fact stared at him that he should sooner or later give up the contest, which he determined to do with credit. The season was shortened at Capel-street, benefits were commenced immediately, and, these ended, he struck his flag, leaving the field to his more lucky opponent, Ryder, whose success we shall soon have to chronicle.

### A QUAIN ORDER.

THE following is an amusing order for timber, originally written in lead pencil upon a picco of board, addressed to a timber merchant in Hull:—

Waxholme, 4th November, 1824.

Sir,—

When I last week sent for some stuff,  
You told the man I'd got enough;  
For as you'd sent a deal before,  
You thought that I should want no more.  
My memory's treacherous, I'll agree,  
A natural cause at seventy-three;  
But though my intellect grows scant,  
I yet, thank God, know what I want.  
Therefore, good sir, dispel your doubts,  
And send a deal that 's fit for spouts;  
It must be twenty feet in length,  
Three-quarters thick must be its strength,  
From shales and sap it must be free,  
But that you fear as well as me,  
If such a deal you'll please to send,  
You'll much oblige your humble friend;  
Who for this favour begs your pardon.  
And am your servant,—WILLIAM HOBBS.

\* See ante.

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE last ordinary general meeting of this Institute for session 1877-8, took place on Monday evening, the 3rd inst., at the rooms, Conduit-street, London, Mr. Charles Barry, President, in the chair.

Mr. E. P. Cockerell introduced to the President, Mr. Charles Lucas, who had been deputed by the Société Centrale des Architectes, Paris, to represent that body at the Conference.

Amongst the names of those recommended for membership were:—Mr. John Oldrid Scott, as Fellow; Lord Seaton, as Honorary Associate; Mr. C. E. Barry, as Associate; and Mr. Charles Henman, an old Fellow of the Institute, who desired to be placed on the list of Honorary Associates.

Three gentlemen were balloted for, and declared duly elected, viz.:—Mr. Edward Hughes, Huddersfield; Mr. James Thompson, Glasgow; and Mr. John Clutton, London.

Several donations to the library were announced by the secretary, and a vote of thanks passed to the donors.

The President called attention to a number of engravings of old city churches in London, which had been secured by Mr. Kershaw, the zealous librarian, who was ever on the alert to make the Institute collection of engravings of these churches as complete as possible.

### THE ROYAL GOLD MEDAL.

The President next called on Mr. Alfred Waterhouse to come forward to receive the Royal Gold Medal of the year, and addressed him as follows:—

"It is a personal gratification to me that it becomes my duty this evening to be the medium of conveying to you the outward symbol of the high esteem in which you are held by your professional colleagues. It is unnecessary for me to explain to you, an old member of this institute, the meaning and intent of the Queen's Gold Medal, which has now for many years been so graciously committed to our body, and as to the annual destination of which Her Majesty is always ready to take our advice. No personal favour originates or can confer this honour. It is absolutely free and open to those—and those only—who in the opinion of their colleagues and rivals merit it. This being so I can sympathise with and fully appreciate the feelings of pardonable pride with which you will receive it. You have this year been chosen by your colleagues here from among many worthy men and eminent architects like yourself. The council's recommendation has been ratified and endorsed by the concurrence and approval of all the members of this institute, and you deservedly find yourself one in a list of eminent men to whom this medal has before been accorded—their ranks have unhappily been recently thinned by the death of some of those most distinguished among them in the past and present generation, but their places will, I cannot doubt, be filled by those who as in your case are no unworthy successors. That this is no metropolitan honour, but an Imperial one, is evidenced by the choice in you of a man who beginning his practice in the provinces—becoming there by his rare merit distinguished as an architect—has followed up that early promise by coming to London, there also to hold his own and increase his fame by the erection in the metropolis of buildings which are worthy sequels to his provincial triumphs in such works as the Assize Courts, Owens College, and latterly the magnificent Town Hall of Manchester. Here in London your fame may well rest on so successful a work as the Natural History Museum promises to be, when it has been completed and received its final impress from your hand. I can well believe that the well-known modesty of your disposition will shrink from these references to your title to receive this medal, but as president of this institute it is my duty, even if it were not my pleasure, to record some few of the works which own you as their author. Besides those to which I

have referred, it is hut right to allude to the great works done by you at Cambridge, Balliol, Pembroke, and Caius colleges at Cambridge, to your great hotel at Liverpool and the Seamen's Orphanage in that city, to the numerous mansions of our nobility to which you have added architectural beauties—in all parts of England, of which I will spare your susceptibility the detailed list, as they are doubtless well known to and admired by many now in this room. Suffice it to say, that whether in municipal, ecclesiastical, or domestic works you have fully shown yourself, in the best of all senses "A Master Mason." We, in this Institute, are not alone in according to you well-merited honour. It is pleasing to us to remember that this present year has seen you elected as an Associate of the Royal Academy, and we feel that in your person that body has only justified its own position in professing to be the representative of all the Fine Arts amongst which, we architects, proudly claim that our Art should be recognised to even a larger extent than is or has been the practice of that rather exclusive body. May you long live to enjoy the honour thus conferred upon you, and I hope I do not misunderstand the ambition of a true architect if I anticipate that this honour done you by your compeers will be among those most cherished by you, whatever higher or further dignities may await you."

Mr. Waterhouse, after a very cordial reception, replied in brief terms.

The other prizes and medals were then distributed by the President, as follows:—The Soane Medallion (with the sum of £50 added under the usual conditions of continental study), H. M. Robinson. The Tite Prize of £30, Henry Tanner. The Grissell Gold Medal, W. G. B. Lewis; extra prize, a medal of merit, J. Martin Brooks. The Institute Medal and £5 5s., G. H. Shackell; extra prize, a medal of merit, Fred. Pinches; extra prize, a certificate of honourable mention, B. Priestly Shires. The Pugin Traveling Studentship, G. W. Browne; extra prize, the Sharpe prize of £10, W. J. Millard; extra prize, a medal of merit, Sydney Vacher.

The General Conference then entered on its deliberations, a reference to which will be found in another column.

### THE LATEST PHASE OF THE O'CONNELL MONUMENT.

SINCE the first movement made in 1862 for the purpose of perpetuating the memory of "The Liberator" (whose death took place in 1847) by the erection of a monument, many a head has been laid low. We have from time to time noted the proceedings of the committee charged with the carrying out of the work, and now after the expiration of sixteen years, that body have finally arranged with Mr. Brock, a pupil of the late "great Irish sculptor," for the completion of the work. A draft agreement, approved by counsel, was submitted to a meeting of the committee on Thursday last. It provides (1) for the handing over of Foley's model to Mr. Brock on behalf of the committee, a release being given from all liability in respect of the £2,000 paid to Foley; (2) for the completion of the monument by Mr. Brock for £10,000, to be paid by instalments—£800 at once on sufficient security, and the remainder as the work progresses, but £2,900 to be retained until the monument is ready for unveiling; and (3) that the trustees should be empowered to pay these moneys and all expenses properly and legally incurred. It has been stipulated that the foundations are to be laid at the expense of the committee.

Mr. T. H. Tracy asked whether it would not be possible to limit the time within which the work should be completed. The committee was appointed in 1862, and the public were impatient at these delays.

Mr. E. D. Gray said Mr. Brock expected to accomplish the work in three years; but as he would have to deal with third persons for casting and so forth, it would hardly be fair to bind him as to time. He had a stimulus in this way, however, that the sum which

represented profits to him was to be retained by the committee until the work was ready to be unveiled.

Mr. J. Sherwood said he had seen a statement in a newspaper to the effect that Foley's model was all chipped!! If that were so, the monument would not be after his model at all, and he (Mr. Sherwood) would rather see the work done by an Irishman at home!

Mr. Joynt said the model was in perfect condition. Mr. Brock had with great skill and genius completed all the other unfinished works of Foley.

Professor Kavanagh, who had seen the model recently, also spoke as to its perfect condition. The monument when finished from the model would not be approached in point of excellence by any other in the world.

The propositions were adopted, and Mr. H. H. Armstead, of Bridge-place, Pimlico, was requested to certify the work as it progressed, and to receive 175 guineas for his trouble.

### THE SHAM USEFULNESS OF COWLS

THE result of experiments to test the exhaust cowls exhibited at Leamington last year made by a committee appointed by the society called the Sanitary Institute of Great Britain, appears to have surprised most persons. It runs as follows:—

"The sub-committee appointed at Leamington to test the ventilating exhaust cowls, beg to report that they have given the matter their most careful attention, and carried out at the Royal Observatory, Kew, an elaborate series of about 100 experiments on seven different days, at different times of the day, and under different conditions of wind and temperature. After comparing the cowls very carefully with each other, and all of them with a plain open pipe as the simplest, and in fact, only available standard, the sub-committee find that none of the exhaust cowls cause a more rapid current of air than prevails in an open pipe under similar conditions, but without any cowl fitted on it. The only use of the cowls, therefore, appears to be to exclude rain from the ventilating pipes; and as this can be done equally, if not more efficiently, in other and simpler ways, without diminishing the rapidity of the current in the open pipe, the sub-committee are unable to recommend the grant of the Medal of the Sanitary Institute of Great Britain to any of the exhaust cowls submitted to them for trial.

W. EASSIE,  
ROGERS FIELD,  
DOUGLAS GALTON."

May 30, 1878.

### LIBRARY OF M. A. DIDOT.

THE celebrated library of the late M. Ambroise Firmin-Didot has been on sale at Paris, since the 6th inst., and the sale concludes to-day. The books are of the rarest, and the prices of the highest. One item, a book of French poetry, which was among those put up for competition on Saturday last, realised an almost fabulous amount. It was numbered 216 in the catalogue, and is entitled 'Le Chevalier aux Dames,' printed at Metz in the year 1516. It is a defence of the fair sex against the calumnies of the 'Roman de la Rose.' The book is in small quarto, and in fine condition; the same copy which, in the Yemeniz sale, ten years ago, brought the sum of 2,075 francs, then thought to be a very high price. On Saturday last it was sold for the enormous sum of 11,400 francs, or £140. There is a copy of this costly volume in the King's Library, British Museum. Mr. Quaritch, Mr. Ellis, and other English buyers attended the sale.

### THE ROYAL DUBLIN SOCIETY.

AN evening scientific meeting of this society will be held on Monday next, when the following papers will be read:—By G. F. Fitzgerald, F.T.C.D.—"On Surface Tension, and its possible relation to Muscular Contraction." Rev. Gerald Molloy, D.D.—"On the Theory of Glacier Motion." Staff-Surgeon E. L. Moss, M.D.—"On the Effects of Cold on the Strength of Iron." W. Harte, C.E.—"On an Artesian Well at Coleraine." Rev. Professor Haughton—"On Measurements of the Angles of the Columns of the Giant's Causeway, made by the Rev. J. H. Jellett, B.D., S.F.T.C.D."

## MYCENÆ, TROY, AND EPHEBUS.\*

MYCENÆ was, according to the story, the capital of King Agamemnon, who commanded the Greeks in the expedition to Troy. It is almost hid in a corner of the plain of Argos, where it is situated in a ravine between two prominent hills. Portions of the old walls forming the Acropolis are still standing. Some parts of them are yet good, and in such condition that they might be useful for defence in the present day. Without the walls are the remains of some tombs, and a fragment of an old Cyclopean bridge; and that may be said to be all that has been left of the ancient capital of Argos. It is not much, but when time is considered, we may marvel that even this much has been left to us. According to the usually accepted history, Mycenæ was destroyed in the year B.C. 468, and the place was supposed to have been deserted at that time, and to have remained so ever since. The absence of population may perhaps explain why it has withstood the ravages of so many years; to this may be added the lucky circumstance that there was also no town close at hand to use the old walls as a convenient quarry. The place seems at a very early date to have dropped out of history, and to have been lost, or, at least, forgotten; to these causes, perhaps, we owe the existence of some most interesting specimens of early building, and the safe preservation of the oldest specimen of sculpture in Greece, that is, the lions over the gate of the Acropolis. This obscurity in which Mycenæ was shrouded, can be evidenced by what Strabo says, for he states that it had been razed by the Argives, and that in his time not a trace of the city was to be seen, (lib. vii., c. iv., 10.) The out-of-the-way corner in which this old city stands, may explain why so little was known of it, and will account for Strabo not finding the spot, or it may lead us to understand why those whose information he had trusted chanced to be unconscious that the old Cyclopean walls were still visible. . . . .

The principal part of the walls are of the most primitive style of Cyclopean masonry; that is, of large, and seemingly unhewn stones, without mortar or cement of any kind. Where such rough stones leave wide spaces between, these openings are filled up with smaller stones. At the Gate of the Lions the stones have been wrought, and may be described as rectangular, and yet they are different from the later rectangular, which belongs to the Hellenic period. The gate itself is formed of two massive upright blocks, which form the posts or jambs; these are 10 ft. 8 in. long, thus giving at the same time the height of entrance, which is 10 ft. 3 in. wide on the ground, they slope inwards, reducing the width of the opening by 9 in. at the top. The large block forming the lintel is 15 ft. by 8 ft. Whatever may be the date of this work, we have evidence of considerable experience and care in the mode of construction as manifested in this doorway. Strong and massive as the lintel is which bridges this gate, a triangular space is left vacant above, so as to relieve it of any superincumbent weight. There is a somewhat similar plan carried out in the Great Pyramid, and it may be said to be the finest specimen of building in the world. In this triangular space over the gate at Mycenæ still stands the sculptured slab with the lions, which has given the gate its well-known name. It is supposed to be the oldest known sculpture in Greece. This would give it an interest in itself, but it has other claims which attract our consideration. In the first place, it may be asked, what is the meaning of this ancient piece of sculpture? There is a short pillar which rests on a pedestal, on each side is an animal, supposed to be a lion; they stand in positions not unlike that of heraldic supporters as used in coats of arms in the present day. The upper portion of the slab is mutilated, the animals' heads do not exist, and we are also left in doubt as to how the pillar

terminated. The capital of this column has been described as being Doric; this is not quite correct. It can only be said to resemble that style more than the others, but it is not Doric, nor can it be identified with any style of architecture known as belonging to Greece. I am inclined to agree with the idea which has been expressed by more than one authority, that the heads of the lions were not cut on the stone, but were formed of metal, and fixed with nails or bolts; there are holes which may have received these nails still existing, which give a strong colour of probability to this theory. This renders it highly probable that there may also have been some symbol in metal which surmounted the pillar, and the loss of which may leave us in the dark as to the significance of this most interesting specimen of ancient art.

Many suggestions have been made by way of explanation of these two lions and the pillar, but as yet no definite conclusion has been arrived at. One theory is that the pillar was a symbol which had reference to the Persian solar worship—another conjecture made the pillar sacred to Apollo under the title of Agyieus, in which character Apollo was the guardian of streets and public places, and that he would thus be the appropriate deity of gates and vestibules. . . . .

It would be curious if the lions at church doors, which were common about the twelfth century in Italy, could be traced back to this ancient example at Mycenæ. The gate, as a seat of justice, is most ancient, and the church door became a place, in the Middle Ages, where decrees were published, the lions were such a recognised feature of the door, that many of the proclamations and documents began with the formula of *Inter Leones*." (De Caumont, p. 168.)

Another important consideration is the origin of the style of sculpture on this slab. Up to the present, scarce even a guess can be made as to the date which ought to be assigned to it. The art upon it is good,—so good that it implies progress and a considerable period of time to reach the condition of culture necessary to produce such work. It stands alone, and unconnected with any other specimens of art in Greece. We have no other works which could be pointed to as the steps leading to the state of development indicated in the high finish of these lions. They seem to belong to a different school from that of the later Greek art. The problem has been as to where the influence which produced this style came from. The usual explanation has been that of an Asiatic contact. This theory, of course, involves the still broader theory that the first influence which gave birth to Hellenic art came from Asia. The strong resemblance in the style of art on these lions at Mycenæ and the sculptures from Nineveh, has naturally led to the supposition that the style came originally from the valley of the Euphrates. Or it may have been in some allied school which flourished in Phœnicia, for we know from Homer that Sidonian art was at an early period much valued by the Greeks. From the most remote period there was a constant communication between Greece and the north-west corner of Asia Minor, and this link would also explain how art knowledge, or even the artists themselves, might be transported from one region to the other. The story of Pelops coming from Lydia, and being able to give his name to the whole Peloponnesus, may be partly, or even wholly, mythical, and yet the probability is that some migration of power, or of race, took place, and with it, no doubt, would be carried whatever superiority in art the invading race may have chanced to possess. The Greek authorities seem also to favour this idea. Pausanias states—and we may suppose that he gives the explanation which was current at his time—that the gate and the lions upon it were the work of the Cyclopes, "who also made for Prætus the wall in Tiryns." Now, Prætus, according to the story, had been for some time an exile from the Peloponnesus, at the Court of Iobates, the king of Lycia, and from Strabo we learn that the Cyclopes came

from Lycia. Thus far, there seems to be an agreement in the tradition as to the direction from which these workmen came. When we ask as to who or what these Cyclopes were, nothing like a satisfactory answer can be derived from the allusions to them which we find in the Greek authors. According to Strabo, there were seven of them, and they were called Gasterocheires, or "hands and stomachs," because they subsisted by means of their art. These Cyclopes from Asia seem a very different race from those described as belonging to Sicily, who had only one eye in the middle of their foreheads. The only point of resemblance between them was that both were connected with labour and with art. Those of Sicily were supposed to be the assistants of Vulcan, and were, of course, metal workers, whilst the Cyclopes of Asia were stone-builders. As the stone age dates before that of bronze, we may assume it as probable that the Asiatic Cyclopes belonged to a more primitive period. The questions connected with these ancient art-workmen, are very important, and are very tempting to go further into in a paper for a society such as the Society of Arts, but I must limit my remarks, and proceed with the subject.

It was just within the Gates of the Lions, and close to the outer walls of the Acropolis where Dr. Schliemann made his excavations. Here he came upon the five tombs—a sixth has since been discovered by M. Stamatakis—which yielded such a harvest of golden treasures. Here were found the golden goblets, masks of the same metal, and the celebrated buttons, or bosses, covered with thin sheet gold, and other interesting objects too numerous for me to recount in this paper. Instantly on discovering these tombs, Dr. Schliemann declared to the world that he had found the graves of Agamemnon, and of those killed with him, by Egistheus on their return from Troy. The value of this declaration may be estimated when it is known that our best archaeological authorities on such matters, both here and on the Continent, cannot agree as to the probable date of the objects which have been found; and I may add, that there is a very wide interval of time implied in this uncertainty by the various theories which have been suggested. The few sculptured stones which were brought to light most certainly do not belong to the same style of art as that on the Gate of the Lions. The work on the lions is good, and the men who produced them are fully entitled to be called artists; but it would be an abuse of that term to apply it to those who executed the ornaments and figures on the stones lately found in the excavations at Mycenæ. Whether they belong to a primitive period, and were the early efforts of art, or that they indicate a deterioration in taste, and ought to have a late date assigned to them, is one of the questions at issue; and, unfortunately, the materials necessary to guide us in giving a judgment on such a point are, as yet, rather scanty.

One very remarkable monument was uncovered in these excavations, and it might be said that every feature connected with it was new to the student of Greek archaeology. On this account it was rather a puzzle to explain its purpose. When fully laid bare, it presented much the appearance of what we understand by a Druidic circle. A close inspection showed that the slabs had been wrought, and that they were carefully fitted to each other; that a portion of the circle a second circle of slabs was still standing; this second circle was concentric with the first, and only about 3 ft. apart; at one place there remained a few slabs, which formed a covering between the two circles. These horizontal slabs were mortised into the perpendiculars. That these covering slabs were originally all round the circle was evidenced by the existence of the mortices on many of the upright slabs. These were distinctly visible, and the conclusion which had to be formed from this was, that when the structure was complete, it must have formed a circular ledge or seat. It was nearly 100 ft. in diameter, and the whole suggested the idea of an arena, or place for some public

\* By Mr. William Simpson, F.R.G.S. Read at the Society of Arts, May 29th.

performance. At the point of the circle, nearest to the Gate of the Lions, the entrance to this enclosure still remains.

It was while sketching on the spot that I was able thus to realise what the place had been at first, and recalling the description of the Shield of Achilles, where there is a crowded assembly, and the trial of a case is going, the poet says, that "the elders sat upon polished stones, in a sacred circle" (*Iliad*, lib. xviii., v. 503). The word rendered polished might also be given as "smoothed," or "worked," as applied to the stones; and thus we have a Homeric description which agrees perfectly with this discovery at Mycenæ. On sending home my sketches to the *Illustrated London News* of the spot, I suggested this explanation of it, and, in addition to the account of the Shield of Achilles, I added a reference to the Agora of the Phæacians (*Odyssey*, vi., v. 265), which is also described as being round in form. Additional references have been made by others as to the circular character of ancient Greek Agoras, and this theory is now that which is generally accepted in regard to this monument.

It would be a very important point if it could be determined whether the Agora was appointed at this spot after the tombs, or if the important personages had been buried there as a mark of honour. Instances of Agoras, with tombs and monumental shrines within them, did exist. Pausanias mentions that among the Megarenses there is a senate in the place which was said to be the sepulchre of Timalcus (lib. i. 42). He also states that these same people built their place of consultation "in such a manner that the sepulchre of heroes might be contained within its ambit" (lib. ix. 43). It the city of Elæa he also mentions a stone sepulchre, and states that it "is in that part of the forum which is in the open air" (lib. ix. 5). Themistocles died at Magnesia, where he was buried, and, according to Plutarch, a very handsome monument was erected to him, "which still remains in the market place." Herodotus states that "there was, and still is, a shrine dedicated to Adrastus, son of Talans, in the very forum of the Sicyonians" (v. 67). In the Agora of Corinth, according to Xenophon, there was the sepulchre of Euphron. Some of these instances seem to imply that the place of public assembly was arranged so that the ashes of the heroes who were buried there would give a sanctity to the place. The circle of stones upon which the elders sat, as described on the Shield of Achilles, is called a "Sacred Circle," which confirms this idea. Where persons of distinction have been interred in an Agora, or had a sepulchral monument raised to them, it has evidently been done as a mark of high honour. Hence, in whatever way we may interpret the graves discovered in the Agora of Mycenæ, we need not hesitate to accept the theory that they were individuals of high repute, and that they must have been held in considerable honour by the inhabitants of the place. The amount of golden objects found with the bodies, the value of which has been estimated as equal to 5,000 British sovereigns, becomes another evidence in confirmation of this.

(To be continued.)

## HOME AND FOREIGN NOTES.

**DOINGS IN KINGSTOWN.**—It was reported at the last meeting of the Town Commissioners *re* the new Town Hall, that Lords Longford and De Vesci had granted stone for the building free of cost. The contractors, Messrs. Meade and Son, suggested several improvements, which would add £800 to the amount of their tender (£12,240). The architect's fees and furniture would be in addition, making about £1,000 required over the £13,000 already borrowed. Mr. McEvoy inquired would not the contractor make allowance for getting the stone free of cost—a privilege that he and others who tendered did not contemplate. The chairman said the stone was worth only £20. Mr. Foley objected to anything in excess of the amount borrowed, and recommended that the work should be cut down to suit their means. The question of

paying £50 for a map of the township was postponed, as was also the consideration of Dr. Cameron's application for a fee of 10s. Gd. in each adulteration case, in addition to his standing salary of £50 from the County Grand Jury. The site of the Town Hall and Court House was formally handed over to the contractors on Tuesday, the 11th inst.

**BRAY ESPLANADE.**—Mr. J. Hargrave Bridgford, architect to the Bray Pavilion Company, writes—"My attention having been called to a correspondent's notice, stating that hundreds of cart-loads of boulders were being removed off the beach forming the 'sea defence' of this Esplanade. I officially visited the concrete works of the ladies' sea bathing place, now in course of erection, and beg to state that the only material being collected, and that at low water, off the beach by the contractor are the large round stones (not boulders) thrown up at every tide, and these are being used by Lord Meath's special permission, as also sand and gravel taken from the river's mouth. And I should add that the deep sea wall which we have now constructed in front of the baths will do more to protect that part of the Esplanade than all the boulders ever washed up by the sea." Another correspondent, in reply to Mr. Bridgford, says the architect's letter goes to confirm the original statement. He remarks that—"Upon reference to Webster's dictionary I find the definition of boulder, 'a large stone worn smooth or rounded by the action of the water,' and in Sullivan's dictionary the definition is 'A large round stone.' Perhaps Mr. Bridgford would kindly give his definition of the term." We supply another definition of a boulder or, as sometimes called, a "boulder," from Nuttall:—"A moderately sized stone of a rounded form, very common on the sea shore in some places. In geology, a rounded mass of rock lying on the surface, and apparently borne by the water or ice from its original position."

**MILK ADULTERATION IN CASTLEREA.**—Five milk contractors at last petty sessions of Castlereagh, County Roscommon, were mulcted in heavy fines for having sold and delivered at the Castlereagh Workhouse milk largely adulterated with water. It appeared the contractors had been previously warned, but the samples upon which they were convicted were proved by Dr. Cameron, the analyst, to contain from 20 to 25 per cent. of added water. The formal proofs, including Dr. Cameron's certificates of his analysis having been given, the magistrates fined Martin Hanly, £20; George Fitzpatrick, £20; Martin Cahill, £20; Martin McGuire, £10; and Patrick Brooks, £10. Mr. Burke, who had prepared the summonses, applied that the penalties should be payable to the master, who had been appointed inspector of nuisances, and was acting for the guardians in these proceedings, to be applied by him towards the expenses of executing the Act, under the 26th section, instead of having the fines go to the Consolidated Fund, and the magistrates made the order accordingly, so that the cesspayers will be now relieved at next assizes by a lodgment from these fines towards the payment of the county analyst's salary.

At Naas another milk contractor was fined 40s. and 20s. costs for supplying milk to the workhouse adulterated with 33 per cent. of water.

**THE STREETS OF DUBLIN.**—In a case which came before the Commission Court on the 7th inst., in which a carman was indicted for causing the death of a child by negligence in not tying some barrels to prevent them from falling from his dray, Mr. Justice Barry made the following remarks:—"The question the jury had to try was—were the barrels carefully packed on the dray so as to satisfy the ordinary requirements, the ordinary risks of a passage through a crowded city, the streets of which—he did not say it at all by way of throwing blame on those in charge of the streets, or any other individual—were, as a matter of fact, extremely badly paved and extremely badly kept. There were now two bodies dealing with them—the tramways company and the Corporation—and he ventured to assert that such lines of ruts were not to be seen in any city in the world as those formed by the tram lines in their city. Two ill-kept patches of worn out macadamizing at each side and a raised causeway in the centre, with an abrupt ascent from the macadamizing, and then down again into the tram tracks—he ventured to say there was nothing like it to be seen in any other city in the world. But he was not blaming any one for that—possibly the funds at the disposal of the representatives of the city might not be sufficient to keep the streets in order. He did not make his position the medium for delivering lectures upon extraneous subjects—he only made these remarks so far as they bore upon the identical case they had there for trial."

The jury convicted the prisoner, but recommended him to mercy, in which his lordship concurred. Before discharging the prisoner on his recognizance to come up when called upon, his lordship further remarked, in reviewing the verdict of the jury:—"Irrespective of that promise he had made up his mind to take the course he was about to take on hearing the verdict of the jury, and especially their recommendation to mercy. He was going to deal with the case in a way that might appear rather lenient under the circumstances; but, however, he had only his own conscience to satisfy, and he thought the prisoner was, in one sense, irresponsible. He believed he had only followed what was a most mischievous and dangerous course of proceeding on this occasion—namely, packing on these barrels without tying them on, or taking any precaution to ensure the safety of the passengers in the streets. He was sure that this case would have the effect of causing that very simple precaution to be taken in future, while, at the same time, he thought the prisoner had been guilty of no more neglect than many other people were guilty of in the same respect day after day and hour after hour. He had himself often looked with amazement at these piles of barrels and casks going through the streets, toppling and shaking, and he had often seen them fall, though fortunately without being attended by any accident. He was satisfied that the present conviction, which exposed the prisoner to penal servitude, would be a warning to others. He would allow the prisoner to stand out on his own recognizances to appear to receive sentence when called on." [The streets of Dublin are in a shameful condition, nevertheless, and between the Corporation on one side, and the tramway companies on the other, the citizens are subjected to the treatment of Punch and Judy's child.]

## TO CORRESPONDENTS.

**IRISH REPRESENTATIVES AT THE CONFERENCE.**—The only representatives of the architects of Ireland who attended the recent Conference in London, as far as we could learn, were Mr. J. R. Carroll and Mr. John Lanyon.

**ILLICIT COMMISSIONS.**—More than one Dublin builder has complained to us personally of a certain class of architects in this city who are in the habit of levying "black mail," or, in other words, of expecting and accepting moneys from builders. What these sums are paid for we need not mention; but if any builder in this city has sufficient moral courage to put his signature to a brief letter on the subject, we shall willingly publish the exposure, for the purpose of striking a wholesome terror into the hearts of practitioners who are a disgrace to a respectable profession.

**SANITAS.**—We need efficient sanitary supervision, and go in for it heartily; but we agree with you that some medical agencies are at work in putting a pressure upon the Irish Local Government Board as well as the English one, to increase medical appointments and cognate sanitary ones beyond the actual needs of the time. Making a milch cow of the public funds in the interest of any particular profession is, to say the least, discreditable to all the parties concerned. We have had our eyes open for a long time watching the wire-pullers in Dublin and London.

**ERRATA.**—In our last issue *re* "Notes on Printing and Publishing," &c., the name of "Joseph Fisher Marry" should read "Joseph Fisher Murray," and the comma should be omitted, and "Devin Reilly" read as one name.

**TECHNICAL EDUCATION.**—The City Guilds or Companies of London are moving in the matter of founding a Technical University. They anticipate the besom of reform, and are about throwing a sop to the public. Out of evil sometimes comes good, and reform is better late than never. For all that, the City Guilds will sooner or later have to submit to a thorough reform, for they are only trustees of the wealth they possess, and which they have for long years wantonly wasted.

**RECEIVED.**—R. E.—A Builder—A Citizen (yes)—"Gas Consumer" (ditto)—R. D. S.—A Belfast Man (shortly)—M. D.—B. A., &c.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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Illustration.

THE UNITARIAN CHURCH, ST. STEPHEN'S-GREEN.

Contents.

|   | Page |
|---|------|
| MUNICIPAL GOVERNMENT IN DUBLIN (third article—conclusion) .. .. . | 185  |
| The Dublin Sanitary Association, and other Workers ..             | 186  |
| Mural Painting .. .. .  | 186  |
| The Old City Basins .. .. .                                       | 188  |
| City Scavenging .. .. .   | 188  |
| The Sanitary Act and its Defects .. .. .                          | 188  |
| Forthcoming Sales .. .. .   | 188  |
| Hibernian Bank, Lower Sackville-street .. .. .                    | 188  |
| Our Sea and Harbour Marks .. .. .                                 | 191  |
| Adversaria Hibernica—Literary and Technical .. ..                 | 192  |
| Long-Pending Improvements .. .. .                                 | 193  |
| The State of the Streets .. .. .                                  | 193  |
| The Britannia Bridge .. .. .                                      | 193  |
| Mycenæ, Troy, and Ephesus .. .. .                                 | 194  |
| Notes on the Early History of the Irish Stage .. ..               | 194  |
| Concrete Cottage Construction .. .. .                             | 195  |
| Correspondence—What is a Boulder? .. .. .                         | 196  |
| Notes on Concrete and Fire-Resisting Materials .. ..              | 196  |
| Home and Foreign Notes .. .. .                                    | 198  |
| To Correspondents .. .. .   | 198  |

THE IRISH BUILDER.

VOL. XX.—No. 445.

MUNICIPAL GOVERNMENT IN DUBLIN.

THIRD ARTICLE (conclusion).



It is acknowledged on all sides that the sanitary condition of Dublin is deplorable ;

and, making every allowance for the trifling difficulties in the way of the Corporation, that the local body has not for several years been doing its duty. The City funds have been wasted where they have not been reduced otherwise by useless appointments. The late Main Drainage scheme, far-fetched and unwieldy in its proportions, was only given up when all outside parties interested in the city's welfare unanimously proclaimed against it, and when several thousands were frittered away in law and other professional expenses, and the payment of a staff who had no duties to perform. The Corporate movement for purchasing the interests of the Gas Company, and making the future supply a municipal one—viewed apart from the influences by which it was worked—was a defensible project in itself ; but, taken with all its surroundings, it was a nefarious scheme, involving a large job, and leading to the direct benefit of a number of the corporators who were shareholders. It

is not, however, necessary at this date to enter into the sinuous details and reprehensible action that signalized the Municipal Council on the head of the gas question. It led, as many are aware, to appointments that benefited the family party and their jobbing friends, who to no small extent successfully pulled the wires during the agitation.

In the matter of town drainage, it is notorious that in several districts there is no proper house drainage, and that the chief sewers and the subsidiary ones are most defective, the older ones being badly constructed, and totally unfitted to carry off the sewage. A few of the leading thoroughfares are occasionally in presentable repair, but even at the present moment some of our chief streets exhibit intolerable roadways, which a rainy day renders almost impassable. The tramcar traffic has of late multiplied the evils which devolve upon the Corporation to remedy, by compelling the tramway companies to perform their portion of the contract. The scavenging of the city could not be much worse, and the appointment of a Deputy Surveyor of the streets has not led to improvement. The permanent appointment of that official will not mend matters under the present system, for streets will not repair themselves, and granite cubes and macadam material fall down from heaven to fill up the ruts with a more binding material than water.

We pointed out in this journal nearly seven years ago that the scavenging of the city could be vastly improved by utilizing the tram-rails in the small hours of the morning, and by employing a number of lorries or wagons for carrying out the scavenge from different depôts (with sidings to them) on the line of service. By this system more rubbish and refuse, or ordinary scavenge, could be removed in a few hours than by the present system in as many days, and the work of removal could be expeditiously performed, the material being conveyed to suitable shoots in the unpopulated suburban districts.

We were told at one time that the Corporation intended to utilize the tram-lines for the above purpose ; but though we have waited for a long time, nothing more practical has been done than talk, talk, talk. At the present moment some of the metropolitan local boards of London fear the refuse or scavenge of their districts to canal wharves, and, the material being conveyed in a short time into the country districts, is utilized by farmers and others.

We lately visited some of the scavenge depôts in Dublin, to see what was being done in these spots. The scene or scenes we witnessed in these places, and the methods adopted for piling and accumulating the offensive material is, to say the least, most reprehensible and dangerous to the health of the neighbourhoods in which they are situated. In these depôts you will see mountains of rubbish piled not on a levelling-down principle, but on an inclined levelling-up one,—the entries to these depôts or yards being several feet lower than their furthest point, where the rubbish is continued to be “shot.” We will not wonder in the least to see the filled-up ground of these scavenge depôts built over by some speculative builders or Artisans’ Dwellings Improvement Company, and the Corporation taking credit for providing cheap and eligible sites for houses for the working classes. Very pretty sites some of these depôts are ! Off New-street and Marrowbone-lane, where the inclined

planes are more fully levelled-up to greater angles, in lines forming tangents to the planets overhead, nice terraces in crescent shapes can be laid out, with the genteel dwellings rising tier over tier,—the very acme of salubrity !

Taking another peep into Mr. McEvoy’s recent pamphlet, we meet a pertinent passage, which will not be out of place at this point :—

“The importance to Dublin of good local government can hardly be exaggerated. Our bad sanitary condition is attested by our high death-rate, nominally 28, but, as corrected by the additions of unregistered deaths, really 31 per 1,000 ! To combat this excessive mortality, there has not been brought into operation the measures which elsewhere have been promoted with so much success. Street widening and street improvements, domestic scavenging, and nuisance removal are not carried out. The state of things in Dublin for want of an organised system of nuisance removal, is thus described by Mr. Boyle, Secretary to the Public Health Committee, in his Report of March 19th, 1875 :—‘The number of cleansings of tenement houses varies from three to seven, and averages four per annum ; of other houses the average is once in nine months.’ Thus we have filth stored in the houses for many months, with large depôts in which filth is stored by the Corporation itself in densely-populated localities. Mr. Boyle warns the committee that, sooner or later, they must face ‘the difficulty.’ ‘The private depôts,’ he says, ‘have been closed at your instance ; private parties (ash-pit cleaners) can no longer ply their trade, and the Corporation is utterly unequal to it. Yet owners and occupiers of houses are still summoned for foul ash-pits and privies, which the Corporation neither will clean nor allow others to clean.’ A system of domestic scavenging and nuisance removal for Dublin, such as exists in the English large cities, would cost, it is estimated, £15,000 per annum. The present Corporation can see no way for dealing with the difficulty. And they are equally powerless as to street improvements, and the carrying out of the Artisans’ Dwellings Act.”

A member of the Dublin Sanitary Association a few days ago, at the annual meeting of that body, took credit that the association led to the movement for Artisans’ Dwellings in Dublin. Now, to tell the bare truth, it was the IRISH BUILDER that called for the application of the act to Ireland, before the Dublin Sanitary Association moved in the matter ; and the only claim that can be put in on the part of the association is, that it went in in favour of the movement, and called for the application of the act to Ireland in the wake of ourselves. The Artisans’ Dwellings Company in Dublin was of course the direct result of the application of the Artisans and Labourers’ Dwellings Act to this country ; but very little real work has yet been accomplished, and the want of workmen’s dwellings is still a grievous want in this city, and the supply as yet is most limited, and does not afford any ground for boasting. We have examined a number of these artisans’ dwellings north and south of the Liffey, and, though we candidly acknowledge they are an improvement, and far preferable to the tenement houses in many parts of the city, yet they do not come up to the sanitarian builder’s or architect’s idea of roomy and healthful accommodation and arrangement. They are of course built on the commercial principle,—they are built to return interest for capital expended, and those who have a commercial interest in them ought to be chary of trumpeting forth the philanthropic sentiment. It is perfectly honest to take an advantage of a public want and profit by it, but men must not ape philanthropy and benevolent intentions in a matter where there is no charity, and where the investor receives a fair return for his money.

Returning to the Corporation—upwards of forty years ago it was said that in twenty

years' time the rental of the city estate would be doubled, but twice twenty years have led to only an increase of about £5,000. If the old Corporation plundered the city by selling its property, what has the "Reformed Corporation," since the year 1841, done to make the city estate more valuable by better management? Creatures and hangers-on of the Corporation have of late years reaped considerable benefit by dabbling in city properties. When we are told that between 1842 and 1867 property of the aggregate poor-law value of £5,010 fell out of lease, and was re-let for £5,090 per annum, it may be well remarked—"A reformed administration is needed here" to provide in future for citizens' rights as well as tenants' rights. We have very little doubt that under good management an increased income of from £15,000 to £20,000 a-year could be secured; but as too many cooks are said to spoil the broth, too many appointments without any regular system or organization have led to the utter break down of the municipal government of Dublin. The right men are not in the right place; and incompetency brawls and swaggers, and the incapables are shielded by their friends because the public condemnation and removal of the former would lead to the speedy downfall of the latter, and their relegation to that private obscurity from which they should never have emerged as misrepresentatives of the citizens of Dublin.

#### THE DUBLIN SANITARY ASSOCIATION, AND OTHER WORKERS.

We have often said a good word in favour of this association from its very commencement, more particularly in the early portion of its career, because its object was a good one, and its labours, to all intents, voluntary. We were well aware that some of the most active minds in the association were, from the very beginning, moving in the interests of their own profession,—intent on enlarging the sphere of its actions, and otherwise serving medical interests. There was nothing censurable or dishonourable in this line of conduct, for the springs of human action are set in motion in these days by the representatives of every class to, more or less, serve their own ends. Since the Dublin Sanitary Association was founded, certain sanitary acts have passed, which have materially served the interests of the medical profession, as well as tended to the preservation of the public health. Unfortunately, in Dublin, the voluntary efforts of the Sanitary Association have been powerless to effect that reform which we all desired, for the Corporation and its Public Health Committee and the Association, from the very formation of the latter body, were in open antagonism to one another. We will not say that, on all occasions, the Association took the most judicious method of effecting its purpose; for, no matter what might have been the faults of the Corporation or its Public Health Committee, the municipal body was the ruling power, and its administration could not be usurped or superseded by any efforts which a voluntary body like the Association could make. It was only right that evils and abuses should be pointed out, and remedies suggested; and this work was quite within the province of the Association, as it is within the province of a public journal. The fact, however, from first to last, remains, that the Public Health Committee and the Sanitary Association were in

direct antagonism, and in open war with each other. They never, up to the present moment, worked harmoniously together; and no wonder need be expressed, for it was in the very nature of things that the Corporation of Dublin, as at present constituted, should resent the interference of a voluntary body engaged in picking holes in its work, and exhibiting its ulcers to the world.

In reading the proceedings of the annual meeting of the Association, held a few days ago, the casual reader would be led to believe that the Association never had the least ill-feelings towards the civic body, and that all the efforts of the voluntary workers have been strangely misunderstood. Some people will, no doubt, exclaim, "Wonder of wonders! and is the lion at last agreed to lie down with the lamb?—is the hatchet about to be buried, and somebody, in the name of the Association, to exclaim—Farewell, a long farewell, to all our greatness!"

Judged by its report, the Dublin Sanitary Association has not much to show as a result for its last year's labours; and, taking its own explanations of the causes, no more than a very small amount of work could be expected. Through the mouth of one of the members of the Association, we are told, in public meeting, "At first, the different members of the Committee devoted themselves to the work [reporting nuisances], but other duties, professional and otherwise, had rendered this impossible; and it was felt that the duty of the Association was more to educate the public than to inspect nuisances—that duty being already provided for by the constituted authorities."

Well, well. In the face of this statement, what becomes of the mission of the Sanitary Association? For fully a quarter of a century, George Godwin has, in the *Builder*, preached persistently the creed of the sanitarian—good drainage, pure water, pure air, and cleanliness in person and home. For twenty long years, the IRISH BUILDER has followed in the wake of its English contemporary, preaching the same all-saving creed—endeavouring to educate the Irish public in the principles of sanitary science. Many years before the Sanitary Association, or the medical members thereof, or, indeed, the medical profession generally, moved in the interests of sanitary reform and public health, architectural journalists were in the field, pioneers and workers. It is found convenient now to ignore their labours; but, in the interests of our order and constituency, we are determined to see justice done, and give unto Cæsar what justly belongs to Cæsar.

If the Dublin Sanitary Association intends to do no more in the future than what is indicated at its last annual meeting, we cannot see what public benefits it can confer by its continued existence. As an organisation, it may, of course, be found useful in the interests of the medical profession in this country for some time longer. As a sanitary educator, the Association, as at present worked, and with its small receipts, cannot effect any practical work worth speaking of. The work of sanitary education has been already done well, and is at present being done efficiently by the professional Press, architectural and cognate; and to the labours of these organs the country is indebted for the numerous sanitary acts that have characterised the legislation of late years.

#### MURAL PAINTING.\*

It appears to me that the election of a considerable number of painters into your body should not be looked upon merely as a graceful compliment paid to a sister art, but also as a means of promoting a better understanding between the members of the two professions. By the words "better understanding" I mean more frequent and more cordial co-operation. It is with a view towards this end that I have written a short paper on the possible revival of the art of mural painting in England. The word "revival" is hardly suitable, as this branch of the art has never flourished in England. It ought rather to be replaced by the word "birth."

Having carefully considered this subject from all points of view, I have come to the conclusion that there are three principal causes which impede the growth of this the noblest branch of our profession:—First—the enormous cost of modern high-class work; secondly—the want of harmony between the work of the architect and that of the painter; thirdly—the perishable or unsatisfactory nature of the materials generally used.

I propose to examine these three causes *seriatim*, and to offer suggestions for their removal. First, as to cost. I need hardly apologise, in addressing practical men, for introducing this very important element into the question to be discussed. Aesthetic laymen may rave (as they did at the Antwerp Congress of last year) about art being a "religion," a "subtle essence," a "priceless gem," which it is a profanation to associate with any miserable question of money. All this may be very poetical, but it is not practical, and can lead to nothing. Let us, therefore, take the bull by the horns and frankly examine the question of cost. Mural painting of a very high class need not be enormously expensive, if artists would only bear in mind what is the kind of work required. They too often forget that the qualities of high finish, *chiaro-oscuro*, richness and depth of colouring, so highly prized in an easel picture, are not only unnecessary, but actually detrimental to mural painting. They often labour at details or subtleties of modelling which take up a great deal of time, but are really of no value for decorative purposes. Time is money, and hence a work which takes an artist two years to complete will be very expensive, but if he could make up his mind to finish it in six months, it might be done (and would probably be better done) for one-fourth of the money. The question of cost is also closely connected with the nature of the subjects to be painted. Most of the frescos and wasserglas paintings in the Palace of Westminster are not properly decorative works, but rather a series of gallery pictures executed with water, instead of oil, and an elaborate treatment was almost imposed on the artists by the nature of the subjects. Whenever passages from English history and kindred subjects are required to be illustrated, the work must always partake more or less of easel painting, especially where the panels are close to the eye. On the other hand, ceilings, spandrels of arches, friezes, &c., can be treated in a strictly decorative style. Good composition, firm correct outlines, filled in with flat tints of harmonious colour, is really all that is necessary, and it is possible that this kind of painting might be done rapidly and at small cost. It is obviously impossible to fix a tariff for artistic mural painting, but some step in this direction may be made by an examination of the sums paid abroad to distinguished artists for their work. If we divide the price paid to Paul Delaroche for the Hemicycle by the number of square yards the work contains, we find the cost to have been about £30 per square yard, and if we make the same calculation in respect to Flandrin's frieze of St. Vincent de Paul we find that the work was done for less than £22 a square yard. Delaroche's work can hardly be called decorative. It is an elaborately finished oil-painting, but Flandrin's may be

\* By Mr. E. Armitage. Read at Fifth Conference of Architects.

taken as a fair specimen of decorative painting of the very highest class. Where the panel to be painted is small, and where the figures are required to be less than life-size, the artist would naturally require a higher rate of remuneration, but after taking this into consideration, and after making every allowance for our extravagant age, I think that no mural painting ought to cost more than £50 a square yard, and that a great deal of effective and good work might be done for less than half that price,—certainly where the work is at great distance from the eye. I am speaking of fairly remunerative prices. Of course, it has happened, and will often happen again, that an artist may undertake an important work for the sake of increasing his reputation, or he may be influenced by other motives which may induce him to accept a mere nominal sum; but it is clear that these cases must always be exceptional, and cannot properly enter into our calculation of cost.

I have entered into these ignoble details because I wish to correct the general impression that mural painting of a high class must be always very expensive. It may be so now, but that is because so little of it is done in this country. There is no demand, and therefore no supply; but if architects and their employers would open out a fair prospect for the practice of mural figure-painting, I have no doubt but that painters would be found who would (like certain artists of the Continent) devote themselves to this branch of the profession. It is not sufficient that the artist should be well qualified for the work. He ought to have at his command a staff of trustworthy pupils or assistants. These are not improvised at a moment's notice, and without their co-operation mural painting as a rule would be profitless work. No artist can expect to make as large an income by decorating buildings as he would by painting popular pictures. What Dr. Johnson called "the potentiality of becoming rich beyond the dreams of avarice" is out of his power. If the speedy acquisition of a large fortune be denied the mural painter, on the other hand he is saved from many of the minor annoyances to which the painter of easel pictures is exposed. His work is not relegated to the gallery or dining-room of some so-called patron of the art, to re-appear at intervals at Christie's sale-rooms, or very possibly left on his hands without finding a purchaser at all. He is independent of the dealers and the commercial element in art. He is beyond the range of the annual attacks of fine-art critics, whose small stings are really a cause of great annoyance to thin-skinned painters. He has not to flatter or please his sitters, nor to paint "pot-boilers" for the market. Finally, he is educating public taste, and, therefore, benefiting his country in a more direct manner than the successful portrait, *genre*, or landscape painter.

If we now turn to the second cause I have specified, viz., the want of *entente cordiale* between the architect and the painter, I am afraid we shall here find faults on both sides. The architect is often too apt to think of nothing but his own share of the work. He neglects to leave convenient and well-lighted wall-spaces for the painter. No artist of any standing will care about having his work relegated to a dark corner, or overpowered by stained glass and a profusion of late Gothic details. Again, the architect sometimes expects the painter to adopt the quaint composition and uncouth drawing of the thirteenth or fourteenth centuries as being more in keeping with the style of the building. If the painter happens to belong to a certain school, this obligation may be congenial to him, but generally speaking it is not, and hence a fertile source of disagreement between the architect and painter. On the other hand, the painter often forgets that his work is ancillary to the architect's. In an easel picture he chooses his frame to suit the painting, but here he must reverse the process and suit the painting to the frame, the frame being the surrounding building. He must regulate the size of his figures, his light and shade, his perspective, all the

elements, in short, of his work, solely with reference to the site it is to occupy. To neglect this is antagonistic to all good work. The architect and the painter should be in complete harmony, like the violin and alto in an orchestra. Where they vie with each other as to who shall attract the most attention the result is fatal.

I will now consider the third impediment to the practice of mural painting, viz., the perishable and unsatisfactory nature of the materials generally used. Real fresco painting has been a complete failure in England as far as durability is concerned. Of this there can be no doubt, but opinions differ as to the cause of this failure. Impure colours, the omnipresent gas, the humidity of the climate, have all been assigned as reasons for the premature decay of our frescoes, but from my own experience I should say that the real cause lay in the bad quality of the lime and sand used in the composition of the mortar. Immense pains were taken at Westminster Palace to get the oldest possible slaked lime procurable, and hogsheads of this curious old lime were imported from Munich. It was kept in tanks in the crypt of the Palace, was watered and skimmed from year's end to year's end, until at last it almost ceased to have any of the adhesive, cohesive, and caustic properties which are indispensable to making good mortar. The sand, again, was a great deal too soft to the touch, and the consequence was that the mortar or *intonaco* was not sufficiently binding, and could neither fix the colours properly, nor even consolidate itself. This mania for old worn-out lime has been the bane of fresco-painting in England, and it is probable that no more experiments will be made in this direction. Ordinary oil-painting is notoriously unsuitable for mural work, but if an absorbent ground be used (that is, a ground prepared with size instead of oil) many of the objections to oil-painting are removed at once. I am engaged at present on the cartoons for some panels to be let into a reredos in a modern church. These panels are of slate (about 5 ft. by 3 ft.), and their surface is being prepared by my colourman in exactly the same way that an absorbent canvas is primed. I shall use oil colours with a little wax dissolved in the medium, and as the light is good, I fully expect thus to obviate all the inconveniences connected with ordinary oil-painting.

There remain wax-painting (*peinture à la cire*) and silica or wasserglas. Until quite recently, I did not think much of either of these methods. The wax-paintings in the Paris churches, however great their artistic merit may be, do not harmonise with the surrounding building as real fresco would. They look like rather dull oil pictures, and have not the charming decorative properties of fresco or mosaic. The same may be said of Kaulbach's wasserglas paintings at Berlin.

About six weeks ago I went to Ypres and Courtrai, in Belgium, to see the modern mural paintings which have been executed there, and I came back quite a convert to both methods employed. The wax-paintings of Pauwels, at Ypres, are immediately opposite, and on the same level with a strong glaring light, but they are as perfectly seen as if they were water-colour or fresco. They are totally different in appearance from any wax-painting I ever saw. The same good qualities are very striking in Swertz's wasserglas paintings at Courtrai. His work at Ypres, and that of the Belgian artist, Guffens, may be equally satisfactory; but the light is a side light, and does not, therefore, test the fitness of the material for mural work in so severe a manner.

At Courtrai I cross-examined the man who assisted the artist in the mechanical operation of applying the silica. It would be out of place here for me to enter into professional details, particularly as my only authority in the matter was the assistant; but I may say that the artist has a method of his own, the result of which seems to be most admirable.

I do not think there can be a doubt of the

durability either of Pauwels's wax-painting or of Swertz's silica method. Some of the work has been done six years, and there is not the faintest trace of bloom or decay of any kind. Besides, the wax method has been known and practised for more than forty years in Paris, and the wasserglas for more than twenty-five in Germany. These modern Belgian works, of which I have been speaking, have not been executed with a new material, and there is nothing whatever in the improvements introduced by the artists which would affect their durability. The processes are no secret; and it appears to me that the problem of replacing fresco by some more permanent but equally suitable method has been solved.

To recapitulate briefly what I have said, I consider that to implant and cultivate in England a taste for mural painting, it would be necessary,—

1st. For the painters to be satisfied with moderate remuneration.

2nd. For the architect and painter to consider themselves as joint artificers in the same piece of work.

3rd. For either of the new methods recently adopted in Belgium to be employed.

The subject is one in which I have always taken a great interest, and I think that the time is rapidly approaching when it will interest others besides myself. The strong Puritanical prejudice against figure-painting in churches is being greatly mollified, and there are symptoms that corporate bodies are beginning to wish for something better than bad portraits of royal dukes in their halls. On the other hand, we have both at the Academy and South Kensington, a sounder and more thorough system of teaching than formerly; and it would not be impossible to find, amongst the more advanced students, that gratuitous, or nearly gratuitous, assistance, without which mural painting on a large scale is almost impracticable. These students would be glad to serve a kind of apprenticeship, and thus to prepare themselves for undertaking similar work.

For this happy state of things to come about, however, it is necessary that architects should take the initiative. They have for many years been successfully engaged on works of restoration. Colour has been introduced pretty freely, and no architect would now be satisfied with the whitewash of the Georgian period. Let them go a step farther, and call in the aid of the best and highest art which the country can produce. Instead of employing men whose position in relation to painting and sculpture is analogous to that of the commonest builder to architecture, let them patronise painters of original talent, but who at the same time are gifted with common sense; men who will neither degrade their art by imitating archaic deformity, nor shock the proprieties by the introduction of sham classicism into a Mediæval building. Mistakes in the choice of a painter would doubtless be made, just as mistakes are sometimes made, I am afraid, in the choice of an architect; but the general system would be sound, and would, I think, lead to noble results. The sharp, hard lines which sever the three professions would become softened; sculptors and painters would know a little more about architecture; and architects would learn something of the sister arts.

I hail with satisfaction the introduction of the thin edge of the wedge by the admission of painters and sculptors as Honorary Associates of this Institute. It rests with the members of your profession to drive the wedge home.

**FEVER DISINFECTANT.**—Peroxide of hydrogen is recommended to prevent the spread of scarlet fever and small-pox, as it contains a larger amount of oxygen than any other known substance, and one-half of which is loosely combined, and in a highly active condition, ready to combine with any organic matter with which it may be brought in contact. As a disinfectant it is recommended, and may be sprinkled over papers and articles of clothing, and may be combined with any perfume, in the proportion of about a drachm to the ounce.

## THE OLD CITY BASINS.

THE piece of ground known for many years as the Portobello Basin has been sold as building ground by the Corporation. Since the completion of the new water works and taking of the supply from the Vartry, the canals have almost ceased to be used, save in the environs, and consequently the basins or reservoirs, formerly rendered necessary, have been unutilized for the water supply of the city through the Corporation. There was originally only one principal basin proper, called the "City Basin," at the end of Basin-lane, James's-street, near to the Grand Canal; but the growth of the city towards the end of the last century and the commencement of the present led to the formation of two additional basins or reservoirs for the storage of canal water—that at the head of Blessington-street, and subsequently that at Portobello. The latter one was situated on the site of what was formerly known as Kingsland Park, a portion of which was, we believe, converted into a public resort known as Portobello Gardens, and frequented by our citizens and holiday seekers of thirty years ago. The City Basin proper at James's-street Canal Harbour was at one period a favourite fashionable resort of about a mile in circumference. It had a gravelled terrace all round, enclosed by a wall, and a strong quickset hedge planted with limes and elms. Towards the close of the last century it was said to be capable of supplying the city with water for some weeks, should the springs or tributaries by which it was fed be dry for a time. At the period we are speaking of, however, the city was not altogether depending on the basin, for there was a supply from the waterworks at Island-bridge, where an engine was employed to force water up several feet above the level of the river. The city was also supplied with water to a considerable extent by a number of pumps situated in different parts, and innumerable wells. The water of the second basin, still existing at the end of Blessington-street, is utilized by some firms for manufacturing purposes. An effort was made a short while since, on the part of a number of citizens, to secure these city basins or reservoirs for swimming baths, but this commendable object met with little support at the hands of the Corporation. As one basin has been disposed of, so will most likely follow what remain. The speculating builder can use each basin as a huge "shoot" where rubbish or other scavenge can be shot at so much a ton, while he is clearing the ground elsewhere ere he makes his start for building in (or rather over what was once) water. We wonder much how the thought of a good scavenge depot or rubbish shoot did not occur to the minds of our city fathers ere now, and how easily the want could be supplied by the conversion of the city basins into—well, no, our paternal local rulers are wise and prudent men, and are "not so bad as they seem."

## CITY SCAVENGING.

AN attempt is being made in the Corporation to cushion the Deputy-Surveyor's report *re* scavenging, and in regard to some unpalatable truths he has told respecting the non-efficiency of the staff. More light is wanted, but this is what certain members of the Town Council do not desire. The Paving, Lighting, and Cleansing Committee, state in their report that they could not recommend the Deputy-Surveyor's report, owing to his suggestions being too costly.

Ald. Gregg said he was prepared to move the adoption of the report, but for various reasons he would prefer its consideration being deferred. A great many suggestions of the Deputy-Surveyor were impracticable. Mr. Gray moved that the report of the committee be referred back, and that they be requested to state what they proposed to do to improve the scavenging of the city. Sir G. Owens seconded the motion, which was adopted. The report of the Paving, Lighting, and Cleansing Committee, transmitting the report of the Deputy-Surveyor (Mr. J. J. Lawless) of May, 1878, was read, in which various changes amongst the officers were recommended, in order to secure greater efficiency.

Mr. Gray said that before adopting the report they should send it back to the Deputy-Surveyor, and request that he should strike out all the sneers about his brother officers which were contained in his report. Mr. Mulligan said that in a case like this, where the Deputy-Surveyor made a recommendation, it ought to be carried out, unless the committee gave reasons for not doing so. He would move the following amendment:—"Resolved—To refer back the report to No. 1 Committee to report why Hart is not dismissed; why the old men reported as not fit for work are not replaced by more capable men, and with instructions to return to the Surveyor his report, with an expression of the opinion of the Council that the language used in portions of it is not such as tends to conduce to that harmony which should subsist between brother officers." Ald. MacDermott seconded the amendment. Ald. Dennehy said that the Deputy-Surveyor had complained of the way the work was done in Moore-street, and he said he could not get it done properly. He deprecated interference with the Deputy-Surveyor, as he believed that everything he stated was positively true. Mr. French said that Ald. Dennehy had only paid flying visits in reference to the localities alluded to. The Deputy-Surveyor had £350 a-year, and Mr. Hart, of whom he complained, had been for 27 or 28 years in their employment without a single complaint. He would ask Mr. Mulligan to state if Mr. Hart was recommended to be superseded by a man named Sutcliffe. Had he any dislike to the person? The question of increase of salaries raised by the Deputy-Surveyor had come before the General Purposes Committee, but no report had been made yet, and he for one would not vote for excessive salaries. Mr. Durdin said that if he was in order he would move that the report be sent back to the Deputy-Surveyor in order to have the amount of compensation for the retiring officers set out. Mr. MacDermott seconded the motion. Ald. Gregg said that the committee ought to be directed to report to the council as to the salaries. Mr. Mulligan said that they would have nothing to do with the salaries until the matter was reported on from the General Purposes Committee. He moved his amendment as above. The amendment was carried.

It will be seen pretty clearly from the above how the Corporation are disposed to second the efforts of their officers when they are inclined to report matters that the citizens and ratepayers ought to have been informed of long since. The whole surroundings of the scavenging of the city have long been a crying scandal.

## THE SANITARY ACT AND ITS DEFECTS.

AMONGST replies to queries put by the guardians of the Abbey-leix Union to its medical officers regarding the sanitary condition of their districts, we find the following from Dr. Moutray:—

*Query I.—Is the Sanitary Act defective?*—Wholly so in two of the main attributes political economy attaches to all successful legislation—efficient application and enforcement. Of the failure of its application what more condemning proof than the bare recital of its details? Report by sub-sanitary officer of his inspection, inspection by sanitary officer, his report delayed till "next board day," a fortnight's notice by guardians, a fortnight's adjournment by magistrates.—These the gigantic means, but the ends secured are quickly told—a temporary repair, securing the removal of the prosecution; but leaving the nuisance frequently unchanged, too often intensified by measures of temporary concealment. Failure of its enforcement will strike the most feeble logician as a necessary consequence of the above condition of application. Indeed, vexatious delays, cumbersome and ineffectual implements, but, above all, a want of sympathy with its provisions (arising from the ignorance of its objects), leave the sanitary executive almost fit company for the Tooley-street tailors, who sat to legislate for the world. Above all, its gross and palpable failings is the selection of the occupier, instead of the owner of premises, for responsibility as to sanitary requirements.

*Query II.—Suggest some means of improving it.*—I commend Hamlet's advice, "Reform it altogether." But the existing code might, I venture to urge, be hugely braced

by measures of the following type:—(a) Cooperation of the Constabulary. The "walking gentlemen" of this well-paid body might add a curative to the preventive benefits of their patrols, by nuisance inspection. A constable's interference has an awe attached to it, so ordinary an individual as a doctor need never hope to inspire. (b) Recognition of failure to abate a nuisance as an indictable crime. In defence of which I submit that he who makes a cesspool of his stomach by drunkenness, is, on this count alone, indictable. Yet here the injury is but personal, whereas the offender against sanitary *regime* exposes not alone himself, but the community at large, to the worst ravages of pestilence. (c) Magisterial rigour. By the imposition of substantial and cumulative fines. These might well be added to the miserable pittance at present appropriated the Executive. (d) Free distribution of lime. *Whitewash, like charity*, covers a multitude of offences. (e) Ventilation of the advantages of sanitary precautions. By inviting clerical recommendation (an interference alike suitable and efficient from the admitted proximity of cleanliness to godliness), by information and instruction to the public, through the local press, distribution of circulars, and delivery of lectures.

*Query III.—Is the sanitary condition of your district satisfactory?*—Could it be? I have used every exertion, but with a result in sad proportion to my salary, viz., almost "nil." The obvious reasons of effects so far from encouraging are to be deduced from above report.

In another report the same medical gentleman states that the national schoolhouse of Ballyroan is under the same roof as a cow-house, in which pig-feeding is at present carried on—a thin board or partition plastered on one side being the only division. The latrine of the school is in close proximity to it, and to a river used by the poor to supply water for domestic purposes. This closet is at present in a truly horrible state, and to my mind a source of extreme danger to the scholars in particular, and the public poor generally. I recommend that the attention of Mr. O'Hara, Portarlington, the inspector of national schools, be at once drawn to the state of the place. Any assistance that gentleman may desire from me I will very gladly afford him.

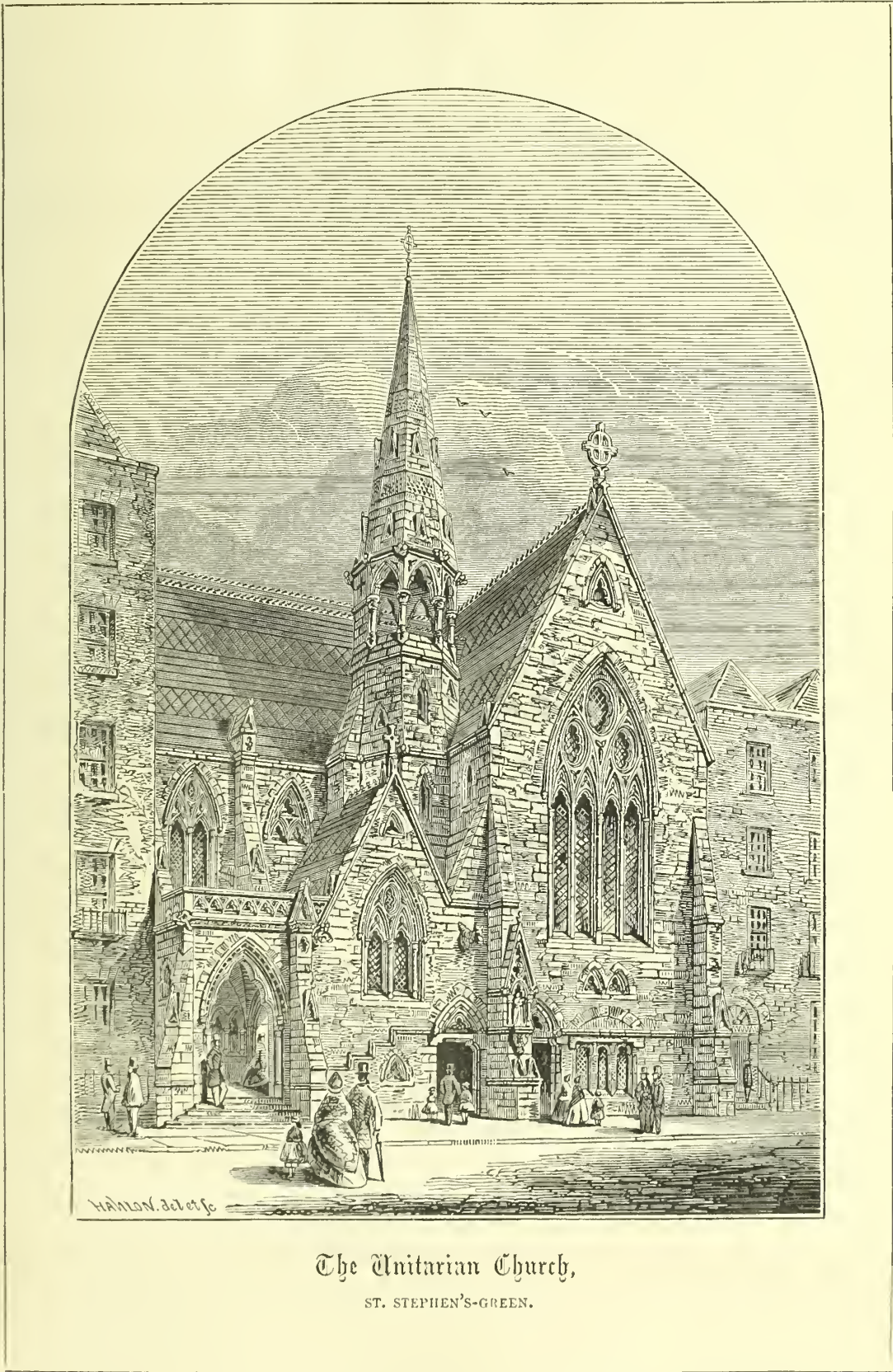
HIBERNIAN BANK,  
LOWER SACKVILLE-STREET.

New branch offices of the Hibernian Banking Company have been opened in Lower Sackville-street, corner of Abbey-street. The premises (formerly the "gin palace" of Mr. W. G. Mooney) have been suitably remodelled under the direction of Messrs. O'Neill and Byrne, architects. Mr. John Brodigan, Grantham-street, was the contractor, by whom the work has been creditably carried out. The new entrance doorway is very effective, being elaborately carved. This portion of the work was executed by Mr. C. W. Harrison, Great Brunswick-street.

## FORTHCOMING SALES.

Mr. Charles Costigan announces that he will submit to public auction, on Wednesday next, on the premises adjoining the Theatre Royal, Hawkins-street, an extensive and valuable stock of iron manufactures, the particulars of which are set forth in our advertising columns. Landed proprietors are recommended to attend this sale, and supply themselves with articles which are indispensable on well-managed estates. Our building friends will no doubt seize the opportunity of getting handy the various matters in the shape of iron work which are required in their trade.

Messrs. Bennett and Son announce a sale on the 8th inst. of the materials of a number of houses to clear the site for new South City Markets.



The Unitarian Church,  
ST. STEPHEN'S-GREEN.



## OUR SEA AND HARBOUR MARKS.\*

(Continued from page 179.)

HAVING in a former article described the methods of illuminating lighthouses from the earliest periods, and more recently with oils—animal, vegetable, and mineral,—it now becomes a pleasing task to advert to the use of gas as adapted to the purpose by the patentee, Mr. John R. Wigham, of Dublin, to whose genius is due the surmounting of the many difficulties of construction, as well as those of petty jealousy, red-tapeism, and the thousand and one annoyances so well described by the late Charles Dickens as proceeding from the circumlocution departments of the public service, and to which, in a greater or lesser degree, every inventor appears to be liable, more especially if he be an Irishman. And it cannot be too much deplored that there is not any corporation or public body in Ireland that has not amongst its members a majority of "toadies," who are but too ready to fulfil the old adage, "that if you put one Irishman on a spit you will get twenty to turn him"; and who can only use the senses given them by an all-wise Providence in the interests and pleasure of the members of the aforesaid circumlocution departments. "They have mouths, but they speak not; eyes have they, but they see not; they have ears, but they hear not;" and, in fact, become colour-blind, sightless, and devoid of hearing, excepting to please the higher powers, or, as a worthy parliamentary agent some time ago expressed it, the little man who sits on a chair in Whitehall Gardens and thinks himself the Government.

Through this stratum of ignorance, prejudice, envy, hatred, malice, and all uncharitableness—worse than any sea or land fog—the gaslight had to struggle, and encounter difficulties thrown in the way by those who, in the mercantile interests of a great maritime nation, should be the first to foster and encourage, and in every way aid to perfection any invention having for its object the saving of human life, irrespective of whether it came from Tower Hill, in London, or Capel-street, in Dublin. Somewhere about the end of 1864 or beginning of 1865, Mr. Wigham was requested by the Port of Dublin Corporation which at that time had charge of the lighthouses of Ireland, to report on the subject of illuminating these coast marks by oil gas; and, in furtherance of this, he instituted a great number of experiments on various oils and mineral products—such as, petroleum, paraffin, paraffin oil (as it is called), and, in fact, all the liquid hydrocarbons; and in the production of gas of the highest illuminating power he was most successful; but with gas so rich in carbon he had to contend with a vast amount of smoke, consequent on the large quantity required for the lighting of a first order apparatus. Previously to this attempt to introduce gas, the oil burners were as described in former article—on the Argand principle and of various sizes, from  $\frac{1}{4}$  in. to 4 in. diameter, and supplied with from one to four wicks subtending angles, for which the different reflecting and refracting accessories were calculated—to construct gas burners that would agree in dimensions became a problem, the solution of which was not unattended by extreme difficulty, from the generation of carbon dioxide, consequent smoke, and a heat that the glass chimneys used with the oil burners were not calculated to bear. Two difficulties should be overcome—viz., to get rid of the smoke or carbon, and to provide some substitute for the glass chimneys; but, although having the pleasure and privilege of witnessing most of the inventor's experiments, it is neither necessary nor desirable that I should weary my readers with all the steps which ultimately led to such gratifying results.

Mr. Wigham early decided on using the fish-tail burner, the jet of which presents a greater surface to the oxygen of the air than, perhaps, any other of equal orifice, and thus

combustion is more complete. To increase this, and bring it nearer to perfection, he devised a mixing chamber, somewhat similar to the tube of a Bunsen burner—but only similar so far as appearance—the tube being screwed on over the burner, and a second *bee* or burner attached to the top—thus the inter-space becomes a chamber in which the gas takes up a minute portion of oxygen before ignition in the second burner, and gives a flame comparatively innocent of soot or smoke. This object gained was most important, as the fish-tail jets being placed side by side, there was little space for air between them, and the consequence was spiky and smoky tails. The next object gained was the doing away with the glass chimneys, and this was accomplished by introducing condensing oxidizers of mica, placed at a proper height over the flame, which, heating the condenser, causes it to draw the external air upwards, thus supplying to the top of the flame a large amount of oxygen, as the mixing chamber does a minute portion to the bottom. The heated air—of which carburetted hydrogen consumes a large quantity—in the rapidity and force of the draft, assists the combustion, and helps to render the flame still more brilliant and colourless, not that a flame wholly colourless is at all a desideratum; on the contrary, it is well known, from experiment and observation, that a yellow or even ruby flame will pierce or penetrate through haze or fog much more effectively than a colourless flame—such, for instance, as the electric, oxy-calcium, or lime-light; but the medium was happily attained, and the production of the flame, known as "bright" by optical engineers, arrived at. Mr. Wigham, in a paper read by him before the Royal Dublin Society, in March, 1872, thus alludes to this subject:—"A flame obtained from gas possesses, in an eminent degree, both quantity and intensity. It is unnecessary to say that the former quality is of great importance in lighthouse illumination. Every one knows that the lime light and the electric light, while possessing exceeding intensity, are deficient in quantity, and we are familiar with the deep darkness to be found outside the line of the rays thrown out by these lights. This want of divergence is a serious drawback to the usefulness of such lights, as it necessitates exceeding accuracy of adjustment in the necessary lenticular apparatus. No doubt lenses could, and have been, constructed for making such flames more divergent, but the peculiar characteristic of the light is then, to a large extent, lost."

Having mastered the problems before alluded to, Mr. Wigham's next care was to devise a means of increasing the light, in accordance with an expressed wish of the then lighthouse engineer of Ireland, and the gentleman who inspected the general economy of the establishments, whether fixed or floating, on the coast; and who, although an officer of the royal navy, possessed considerable intelligence and a good amateur knowledge of lighting apparatus, not often met with in that profession.\* The invention consisted in arranging the burners in rings round a common centre, and for a first-class light, as at Howth Bailey (where all the experiments were carried out), the number of burners thus brought into action was twenty-eight; but the idea was to make this the normal number, representing the four-wick oil burner, and similar in diameter, and when thick weather would arise to supplement these by the addition of other rings of burners, having twenty jets in each until the number of 108 is arrived at by five gradations. The method of adjusting the rings *seriatim* is beautiful in its simplicity,

\* Unfortunately for the future efficiency of the lighthouse service of Ireland, it has lost these two earnest workers in the field—one by death, the other by a most undeserved and enforced retirement to make room for an Englishman from Japan, or Tower-hill, or may be Ceylon; but a man possessing lighthouse knowledge only second to M. LEONCE KENAUD (Inspector-Général des Ports, et Chaussées et Phares de France), with thirty years' experience, is not easily to be had, and should not be lightly dispensed with to please any one, or to make a vacancy for any toady.

and consists of having cast-iron cups attached to the tops of the gas tubes, and containing a small quantity of mercury into which the connecting tubes of the series dip, and are thus luted and any escape avoided. There is no fixing by screws or other mechanical means, and the junction is instantaneous.

\* Much imaginary learned opinion was hazarded as to the ex-focal effect of the increased diameter of flame on the lenses; but, however uneducated theorists might argue against it, no such loss was observable in practice as was supposed would accrue from the adoption, nor would any one with a proper knowledge of the construction of the lenticular apparatus, especially for fixed lights, conceive such an evil possible. It is true that it might be felt in the annular centres of revolving lights; but even in these the diameter of flame being horizontal could not effect the upper or lower reflecting prisms—the foci, no matter how great the diameter, being in the same plane; but this was not thought of by a certain ex-national schoolmaster, Ordnance surveyor, and Jack-of-all-trades, who, having swallowed Joyce's "Scientific Dialogues," took upon him the post of showing the circumlocution office how *not* to do it; and discovered the "value" of gas and many other matters that the inventor had discovered before. My contempt for the opinion of such men prevents my quoting the results of the photometric tests that were attempted, and which, although giving figures very much in favour of the multiple gas burner, were not fair to the patentee, as no photometer has as yet been made that will honestly give comparison between flames of a different colour; but even with the imperfect Bunsen photometer the squares of the flames were  $81^{\circ}$  gas to  $9^{\circ}$  oil—a consummation sufficiently satisfactory under the circumstances.\*

The pliancy of gas, and facility with which it can be adapted, led the patentee to devise many ways for its employment, the most striking being the tri-form, quadri-form, and group flashing; the latter can be used with great and singularly striking effect in all revolving lights, as can also a modified arrangement for intermittent lights. In these last, great economy is the result; for, whilst with oil the intermittent effect is produced by the eclipse of the light, the ignition and consumption continuing; with the gas, the portion required is all that is used, it being turned off during the dark periods, as at Wicklow, Minehead, and Dundrum Bay. Thus, at Minehead, the light being visible for fifty and obscured for ten seconds, there is a saving of one-fifth of the otherwise entire consumption. Again, in the ordinary lenticular revolving lights the gas need not give out its brightest flame until the focus of the lens becomes coincident with the observer's eye, and in the group of flashing lights a number of brilliant coruscations, having intervals of more or less duration, cannot fail by their singularity to arrest the eye of the mariner and give him unmistakable information of his whereabouts; and I cannot but agree with Sir William Thomson† in the opinion that some system of telegraphing, whether the Morse or that of Mr. Babbage (so unaccountably rejected by the magnates of Tower-hill) or something similar, should be at once put in practice at every station where gas can be introduced; and there is no doubt that as sure as the truth of the excellency of gas over all known systems of lighting has made itself manifest, so sure

\* It is an astonishing fact that two *servants* (?) from London attempted lately to examine the French lenses at Annamoro by English formulae, and had sufficient assurance to report them out of focus—thus displaying a lamentable ignorance. The report was printed for private circulation, and privately laughed at!

† In Ireland in all intermittent lighthouses the occultation or eclipse of the oil flame is produced by a beautiful mechanical arrangement, designed by the foreman machinist, Mr. Doyle, M.E., who, relying on the liberality of "The Board," did not patent his invention. He has met with the usual reward—viz., midshipman's allowance; but then boards have no souls to be saved.

‡ Article on the "Lighthouses of the Future," by Sir William Thomson, LL.D., F.R.S., in *Good Words*, March, 1873.

\* Written for the IRISH BUILDER by an old Lighthouse Engineer.

will public opinion insist on its further developments.

Of the illumination of lighthouses by electricity, whether magnetic or otherwise, little can be said. The systems of Holms, Siemens, and Gramme are, more or less, on their trial; and, from what I have seen at Dover, Dungeness, and in France, my opinion personally is against their use. However, in an article of this kind, opinions are out of place, the method of production being more properly what should be aimed at. In all cases, the light is obtained from the burning of two carbon points, the wasting of which, and constant renewal every three, or, at the outside, four hours, and the keeping them always a certain distance apart, forming one of the principal difficulties connected with its adoption. It has never been used in the Irish lighthouses, probably from its great expense and the immense desire always expressed to save the Mercantile Marine Fund where anything Irish is concerned, even though the benefit to be derived should affect the ships and commerce of the world. The light, although possessing great intensity and brilliancy, lacks volume, and is utterly useless in even slightly thick or hazy weather. In such positions as the Straits of Dover it may have trifling value, but nothing to justify the immense expense of its first cost and maintenance; and it will scarcely be credited that experiments have been made to ascertain the best form of apparatus, whether Holms' or Siemens', pending the adoption of an electric light in the houses of the Lizard Point, Cornwall, and this in face of the fact of the superiority of the gas light, so well and thoroughly tested and determined at the Clock Tower in Westminster, one of the results of which was the erection of gas works at Hasborough and use in that establishment! Surely, if good for one part of the coast (*ceteris paribus*) it should be applicable to another.

Having now exhausted the list of lighting media, I will, if permitted, at a future time describe the Dioptric and Catoptric systems, and their application to lighthouses and ships.

## ADVERSARIA HIBERNICA,

### LITERARY AND TECHNICAL.

We have before us as we write a rather scarce and curious work, from which a few extracts will amuse, if not instruct. The extracts which we give will show how Irish history has been generally written by English writers and observers, possessed of only a little superficial knowledge, picked up in a few weeks or months, and the greater part of it based upon mere hearsay. The work which we allude to is entitled—"An Impartial History of the Wars of Ireland, with a Continuation thereof. In two parts: From the time that Duke Sconberg [Schomberg] Landed with an Army in that Kingdom, to the 23rd of March, 1693, when their Majesty's Proclamation was Published, declaring the War to be Ended. Illustrated with Copper Sculptures, describing the most important Places of Action. Together with some Remarks upon the present State of that Kingdom. By George Story, Chaplain to the Regiment, formerly Sir Tho. Gower's, now the Earl of Drogheda's; an Eye-witness of the most Remarkable Passages. London: Printed for Richard Chiswell, at the Rose and Crown Inn, St. Paul's Churchyard, MDCXCIII."

We will not say that Story's book is utterly untrustworthy; but an "Impartial History" it is not. There are passages in it worthy of the attention of the Irish historian, and those treating of the battles of the Boyne and Aughrim; the sieges of Limerick, Athlone, Londonderry, and other military events of the period, in which William III., Sarsfield, Monsieur St. Ruth, King James, and other important personages, figured. Here is Story's description of the Governor of Charlemont Castle, after the surrender of that place:—"The General himself went that

morning from Legacory to see the Castle of Charlemont; and after the Irish had marched about half a mile from it, they drew up in two battalions (about 400 men in each), and there stood till the General came to see them; besides the soldiers, they had also above 200 Irish women and children, who stood in a body by themselves, between the two battalions. Old Teague [O'Regan], the Governor, was mounted upon an old ston'd horse, and he very lame with scratches, spavin, and ringbones, and other infirmities; but withal so vitious that he would fall a kicking and squeeling if anybody came near him. Teague himself had a great bunch upon his back, a plain red coat, an old weather-beaten wig hanging down at full length, a little narrow white beaver cock'd up, a yellow cravat string, but that all on one side, his boots with a thousand wrinkles in them; and though it was a very hot day, yet he had a great muff hanging about him; and to crown all, was almost tipsy with brandy. Thus mounted and equip'd, he approached the Duke with a compliment, but his horse would not allow him to make it a long one, for he fell to work presently, and the Duke had scarce time to make him a civil return. The Duke smiled afterwards, and said *Teague's horse was very mad, and himself very drunk*. The General then viewed the Irish battalions, who all, both officers and soldiers (after they had made him a great many legs), stared upon him as if they knew not whether he was a man or some other strange creature, for the Irish were wont to ask one another—What is that shambear that all this talk is of? The Duke, seeing so many women and children, asked the reason of keeping such a number in the garrison, which, no doubt, destroyed the provisions? He was answered that the Irish were naturally very hospitable, and that they all fared alike; but the greatest reason was, the soldiers would not stay in the garrison without their wives and mistresses. The Duke replied that there was more love than policy in it; and after some small time returned to the castle, which he rode round, first without the palisades, and then within the ramparts."

The writer then goes on to describe the surrendered garrison, and is forced to admit that it was very well fortified, and adds—"They had left no provisions in the castle, but a little dirty meal, and part of a quarter of musty beef. And certainly they were reduced to great necessity, for as they marched along several of them were chewing and feeding very heartily upon pieces of dried hides, with the hair and all on. In Teague's own room I saw several papers; amongst the rest, a copy of a letter writ formerly to same about K. James, giving an account of the state of the garrison, and withal a very true relation of our proceedings in several things, which showed they wanted not intelligence."

After the Battle of the Boyne, and during King William's march to Dublin, the writer ventures on a description of the district of Fingal, of which we are giving the following brief particulars:—"The country all hereabout is most of it inhabited by old English, and is called Fingal—that is, a nation of foreigners. It is scarce worth relating what is writ in the Irish annals of a countryman nigh this place that, in the year of 1341, found a pair of gloves; in drawing on one of which he barked like a dog, and from that present the elders in that country barked like big dogs, and the young ones like whelps; and this continued with some for two years, and entered also into several other places; and they tell you likewise of the men of the County Tipperary being turned into wolves at a certain time of the year; but these are trifles, for they are commonly dogs or wolves in their nature, but no otherwise."

A very "Impartial Historian," in sooth, was Chaplain Story, and Christian gentleman:—"On Saturday, the 5th of July," continues the historian, "we marched to Finglas, two miles wide of Dublin. His Majesty did not go to the city, but staid in the field with his army; yet, the next day being Sunday, he went to St. Patrick's

Church, and returned on horseback to the camp to dinner. This city of Dublin is by much the largest and best in all Ireland, and inferior to none in England except London; most of the houses and streets are very regular and modern, and the people as fashionable as anywhere," &c.

In the second part of Story's book there is given a number of illustrations of the principal battles and sieges described. This second portion is dedicated to King William III., and, unlike the first portion of the work, it is divided into a series of chapters (eleven). In his preface the author remarks—"Whatever my account of these matters may be, yet the maps that I have inserted, which illustrate the principal battles and sieges are very good, and cost no small pains and charges to bring them to that perfection." The maps are certainly curious and interesting studies at the present time, and must possess a value for the local historian. The first map in the book before us contains "A Ground Plot of Londonderry," showing the principal points of interest, forts, disposition of the contending forces, &c. The second map is illustrative of Belfast, its lough, and the fort of Carrickfergus, and other fortifications. The third map is a plan of "The English Camp near Dundalk." The fourth map is "A Ground Plot of y<sup>e</sup> Strong Fort of Charlemont, in Ireland, with the Town and River, Marshes, Boggs, and Places Adjacent." We are told that this map is "Drawne by Capt. Saml. Hobson, who drew the most exact map of Londonderry (the preceding map). The next map is that of "The Battle at y<sup>e</sup> Boyne," showing the town of Drogheda and other points of interest in the locality, and the position and defences of the contending forces; and then follows "A Prospect of Limerick Bearing Due West, exactly showing y<sup>e</sup> Approaches, Batteries, and Breaches, &c.; the "Irish Town" and the "English Town" being given. We have next maps of the City of Cork and of Kinsale and surroundings during the sieges; a map illustrative of the siege of Ballymore, with its fortifications; a map illustrative of the siege of Athlone; a map of Aughrim, with points of interest; a map of "The Town of Galloway [Galway], besieged on the 19th of July and surrendered on y<sup>e</sup> 24th, 1691"; a map of "Lymrick" illustrative of the sieges, &c. A few of the above maps are very creditable specimens of the engraver's art in 1690-1; and, though they are all delineated to show English military operations to the best advantage in one respect, yet they have an historical value. In fact, we are inclined to believe that the old maps in Story's "Impartial History" are the best part of his book, and the only portion worthy of preservation.

In concluding for the present our notice of Story's book we may add that the chaplain of Lord Drogheda's regiment had a brother who held the rank of ensign in the same regiment. The historian gives a somewhat singular account of the death of his brother at the hands of some rapparee captains and their men, who surprised a castle called Camgart, within six miles of Birr. Ensign Story thought to hinder the Irish from getting into the castle, but the rapparees had taken possession long before the arrival of the ensign and his men. To quote the author's own words—"The ensign and his men coming nigh the place and seeing no appearance of either enemies or friends he posted his men in an orchard within musket shot of the castle, and himself with two men went up to the gate, but being got too nigh the works, a woman carrying water to a cabin made a sign that the enemy was within, which occasioned the ensign to stop, at which they fired a whole volley at him, killing himself and one of his men; the party could not bring off the ensign's body, being so near the castle; but after some stay there they marched off without further trouble from the enemy. The officer commanding in Carolaute sent back a drum for Ensign Story's body, which the Irish made some scruple to deliver, but proffered to bury him honour-

ably, which they did, allowing his own drum to beat the Dead March before him, and themselves fired their volleys at his grave, acknowledging at his death some former civilities from him, which is very rare with that sort of people. But this particular I mention to show the uncertainty of the things in this world, for this officer was well and at liberty at nine o'clock in the morning, but before twelve he was not only in the power but buried by his enemies, and that with great formality. And a man that is at pains to describe other people's actions may be allowed the liberty to leave one page to the memory of his own brother." True, Chaplain Story, we admire your brotherly feeling, and we herewith help you in recording this evidence of it, although you have not written Irish history impartially. The incident related above of firing three volleys over the grave of Ensign Story had a precedent in the case of William Bedell, the Bishop of Kilmore, at whose death, it is recorded, the "Irish rebels" with their chief assembled to do the good Anglican bishop unusual honours. One of the biographers of the prelate says, "The Irish discharged a volley of shot at his interment, and cried out in Latin, *Requiescat in pace ultimus Anglorum*," i.e., may the last of the English rest in peace.

The stone-cutter or carver, or, in other words, the stone-mason is a skilled craftsman, and the operative takes no little credit to himself betimes on the head of his work, whether in the softest freestone or the hardest granite. The stone-breaker, on the other hand, is seldom vouchsafed his deserts, yet his craft cannot be learned in a day. Any man may succeed in breaking a stone, but the adept and experienced stone-breaker, though he may be an aged man, will break more stones in a quarter of a day than the young and inexperienced who may be stronger men. Watch the efforts of some stone-breakers on our county-roads to break a stone. In some instances you will find the hammer-man giving from ten to fifteen blows to one small stone before he can break it. With the aid of a forked stick, or other similar appliance, and a hay rope coiled round the anvil stone one blow in many cases would be sufficient to break a small stone. But our poor stone-breakers are not paid well and we must not speak harshly of them. At the same time they give themselves a great amount of unnecessary labour. From stone-breaking to the poor-house, or from either to the grave is the last shift of the poor stone-breaker, and then comes the dirge at the mendicant's funeral—

"Rattle his bones  
Over the stones," &c.

H.

## LONG-PENDING IMPROVEMENTS.

EVERY few years a long projected street improvement, designed in the days of the "Wide Street Commissioners," and first mooted upwards of half a century since, forms the subject of some municipal talk, and talk only. We allude to the opening of a thoroughfare direct from St. Stephen's-green, in continuation of York-street, to St. Patrick's Cathedral. Fifty-seven years ago a local historian, in describing the work of street improvement completed, and that improvement contemplated by the then Wide Street Commissioners, thus writes of the intended work, and the public body carrying out similar improvements:—"They are still determined to immortalise themselves in the memories of their fellow citizens by one great act above all the former; from the end of York-street in Aungier-street, a passageway will be continued to St. Patrick's Cathedral, forming one direct and splendid communication between St. Stephen's-green and that venerable edifice." The Nassau-street, Grafton-street, and other minor improvements

followed ere the Wide Street Commissioners were superseded by the new municipal body in the work of street improvement, but the projected thoroughfare to St. Patrick's Cathedral remains still a work of the future. The restoration of St. Patrick's Cathedral offered a favourable opportunity for the carrying out of the long-contemplated project, but neither the works at St. Patrick's Cathedral nor those at Christ Church have spurred the corporate body into action to supplement the improvements completed through the munificence of two princely citizen merchants. The new street to Christ Church Cathedral, in continuation of Dame-street, is becoming a rather stale project, and there is as little outward visible sign of a commencement being made at Castle-street as at the end of York-street. Perhaps when the last-named project becomes a century old, and the former half that period, Cork-hill may be levelled down in a gentle incline, and the House on the Hill (if left standing) contain more fitting representatives, and ones more willing and capable of carrying out the long-called-for urgent public improvements of Dublin.

## THE STATE OF THE STREETS.

THE Lord Mayor's visit to Paris appears to have opened his eyes a little wider to the shortcomings of "dear, dirty Dublin," of which he is the Chief Magistrate. We know the streets of the French capital well, having often traversed them, and can bear evidence as to the creditable manner in which they are kept by the authorities in that city. It is amusing, however, in Dublin to hear the different opinions expressed during the year as to the state of the streets, and the duties of the Corporation. At one time we are told the Corporation are doing all that is possible or necessary; and at another—when the Council are driven into a corner—it is blurted out that the Corporation have no funds to do the needed work. The British Association are expected to meet in Dublin next month, and we suppose it behoves the Town Council to do something. The Lord Mayor judiciously sounds the alarm, and lo! for obvious reasons, there is all at once quite a *concursus* of opinion,—every member being agreed that the streets could not be in a worse state, and that the officials are not doing their duty! When we stated as much over and over again, and when other independent people corroborated our statements, they were denied. Citizens, read and inwardly digest the following short summary of the proceedings of the Corporation a few days ago:—

The Lord Mayor called attention to the disgraceful state of the thoroughfares through which the tramways ran. Lately he had been in Paris and London, and he must say that so far as Paris was concerned the tramway system was perfection, and he might say that it was nearly so in London. He regretted, upon coming home again, to see the state of their streets, and he appealed to the chairman of No. 1 Committee, and those who were interested in the matter, to look at the condition of the streets from Portobello to College-green. The present system of laying tramways in Dublin was such as should not be tolerated for twenty-four hours in any city. He would go a dozen miles out of his way, if driving in his carriage, to avoid the portions of the city he had mentioned—particularly opposite the Wicklow Railway station, the rails were sunk several inches in the centre, a consequence of which was that, after rain, water to the depth of several inches was collected in the roadway. In the course of the next two months, they would have strangers in Dublin from all parts of the world—from America, and from all parts of Europe, and he must implore the members of the Council to take some active steps in the matter. It was not the officers of the Corporation who were blamed and censured, but the members of the Council. They were the real authority of the city, and their engineer had the privilege of calling upon any of the tramway companies at fault to make perfect the roadway. It was not sufficient to make patchwork of the roadways, as was too commonly done. The roads must be made right from end to end. Opposite Dr. Long's residence in Stephen's-green anything more disgraceful than the state of the roadway he had never seen. As regards laying down the pavement

along the tram lines, no engineering skill whatever had been employed. Near the Mansion House, after a shower of rain, there were three inches of water in the roadway, and no means of carrying it off. If any engineering skill were applied to laying down the roads the water would be carried off.

Sir George Owens said he had lately called the attention of their engineer to the state of the roadways, and he had reported to him that there was nothing to be remedied.

Alderman Gregg said he had made a complaint before No. 1 Committee, and at the instruction of the committee the City Engineer and the Town Clerk were ordered to take such steps as would be necessary to compel the tramway companies to repair their lines. He understood that no notice whatever had been taken of their letters, and at last a summons, with the seal of the Corporation had been sent to the company, but with very little effect. Were he a shareholder of the company, he would be very angry with the management as regards the Brunswick-street line, which had been broken up and relaid two dozen times in the year.

Alderman Dennehy said there was no doubt that the tramway lines were in a most disreputable state. If through lapse of years, or anything else, their engineer was not capable of discharging his duties, it would be better to let him retire, and appoint a man capable of discharging the duties of the position. In some of the English towns they did not allow the tramway companies to touch the streets. In Liverpool they insisted on the tramway companies paving the streets on the Manchester system.

Sir George Owens did not agree with what had been said regarding the superannuation of Mr. Neville. That gentleman was perfectly well able to discharge his duties.

Alderman Dennehy—Oh, what I said was only poetry.

Alderman Harris said the lines of the North Dublin Tramway Company were atrociously laid. He had already called the attention of the City Engineer to the state of the lines in Dame-street. Even opposite the Commercial Buildings one was rocked as in a cradle crossing over the lines in a carriage. He had seen the stones taken up and laid down again without any foundation except mud.

Several other members having made similar complaints.

The Lord Mayor said he was glad there was an agreement upon all sides as to the necessity for improvement. In several parts of the city the roadways were in a dangerous condition. Round about Earlsfort-terrace there were large boulders on the roadway which ought not to be left there for an hour.

## THE BRITANNIA BRIDGE.

THE following appeared in a recent issue of a morning journal:—Some time since a report was spread by a statement being published in the *Builder* that the Britannia Bridge was in a dangerous condition. This report was calculated to cause a panic in this country among the thousands of intending travellers on the line, particularly at this season, when all the world, *se met en route* to see the Paris Exhibition. The report that the Britannia Tubular Bridge was undergoing a process of rusting that would have the effect of making "the bridge come down with a crash" was aired in the *Builder's* pages. It says that the gentleman whose speech it reports stated that "tons of rust were extracted from the tube each month. Now, this assertion is quite without foundation; the bridge is in as good a condition as when the first train steamed through it. Mr. Baker, the well-known London engineer, and engineer-in-chief to the railway company has examined the bridge, and having challenged the gentlemen whose statements the *Builder* publishes to prove what they so audaciously assert, states in his report:—"I may add that I have within the past few years, in conjunction with Mr. Ramsbottom, late mechanical engineer to the railway company, most carefully examined this bridge, when the ironwork was practically found free from rust, the cells or chambers comprising the top and bottom members of the tubes perfectly clean and the edges of the plates as sharp as when first placed in position." This bridge, he says also, is subjected to a most critical and searching examination at short periods, and on account of the attention it receives he feels confident that there is "no practical limit to its endurance." This coming from a gentleman who has attained to such an eminent position in his profession ought to re-assure the most timid, and all should reject with horror the vile assertions—assertions circulated to cause such inconvenience to the public, and to the company—coming from those who are evidently ignorant on the subject.

## MYCENÆ, TROY, AND EPHEBUS.\*

(Continued from page 184.)

THERE is another class of monument at Mycenæ which I consider to be of great importance, as bearing not only on the archaeology of that place, but also in relation to the whole question of the origin of Greek art or architecture. These are the so-called Treasuries, of which there are two almost perfect specimens at Mycenæ, and a number of smaller and ruder examples as well. There are others in various parts of Greece, one of the best known amongst these being the Treasury of Minyas, at Orchomenus. Still, none of these are in such good preservation as that of the so-called Treasury of Atreus. It is a splendid dome of wrought rectangular stones, about 50 ft. in diameter, and about the same in height. The stones are laid in courses horizontally, and not arranged on the principle of the arch, this being the primitive mode of construction for domes nearly all over the East. The stones of this dome are not large, but the entrance is formed with two very large blocks, which do duty as lintels. One of these, the inner one, is 27 ft. long, 17 ft. wide, and 3 ft. 9 in. thick. The second block is not so large as this, but still is an enormous mass of stone. Strong as these blocks are, the builders here again give us an illustration of the care with which they did their work, for over these huge lintels they have left a triangular opening similar to that at the Gate of the Lions, so as to relieve them from the weight of what was above, thus identifying the two structures as belonging to the same school of architecture. On the outside there is a long approach to this door; it is 20 ft. wide, and constructed of squared stones; and it ought to be stated that there is an inner rock-cut chamber, which is entered on the north side from the dome.

In speaking of this monument I have used the term "so-called Treasury," and I have done this because I dissent entirely as to the character which is thus implied by the name. I had been familiar with the structure before my visit to Mycenæ from the usual representations of it in architectural works, but I never thought seriously as to its purpose. An inspection of a building on the spot leads to a more intimate knowledge, and the mind at the same time generally demands an answer to such questions as the why and the wherefore. A very few minutes' inspection was enough to satisfy me that this monument was an ancient tomb, and I see no reason yet to alter that judgment. The influence which led me to this conclusion was that I felt myself forced to accept the fact that it belonged to that class of ancient monuments which are described as "chambered tumuli." It so happens that I have seen and made drawings of a good many of these monuments in various parts of the world, from our own pre-historic burial mounds even as far as the old tombs of the Ming dynasty near the great wall of China. Within this very wide geographical space there are some considerable differences in the ancient places of sepulture, still there are some marked features which are common to a large class of them, and these features are to be found in the Mycenæ examples. The so-called Treasury of Atreus being formed into the side of a hill, its character of being a tumulus is not at first apparent, still we can yet see that the earth has been heaped up over the top of the dome, just sufficient to tell us that it is a heaped up mound. All doubt is removed by the character of the third and fourth so-called treasuries, which are not dug out of a hill side, and when they were constructed must have stood up as distinct mounds. That these structures were not treasuries, in the usual meaning of that word, can be made very evident. Had Atreus, or any other king of "rich Mycenæ," ever made for themselves buildings in which to deposit their wealth, they would have made such places within the walls of the

Acropolis. Security would have been the first consideration, and that such was not the purpose of those who constructed these so-called treasuries is evident from the fact that they are not within the old Cyclopean wall of the stronghold. This entirely precludes the notion that their object was the keeping of valuables. As they cannot have been treasuries, we have necessarily to fall back on their character of being tombs. Here only can we find safe footing, for we can explain that it was owing to their being tombs that they derived the reputation of being treasuries. All over the East every large and important tomb was looked upon in the past, and is so considered down even to the present moment, as being the depository of wealth. The pyramids of Egypt have always been supposed to contain immense treasures. The great mounds of the Bin Tepe, near Sardis, are also supposed by the people in the region to contain unheard of wealth, which will yet be found, when these old burial heaps are opened. Thus it is easy to explain why these ancient places of sepulture have attached to them the name of "Treasuries."

I think it is important to realise the true character of these remains, for Dr. Schliemann has, in his work lately published, entirely ignored their claim to be considered tombs. Accepting them in this light, I think that the next conclusion must be that these are the tombs mentioned by Pausanias in the quotation which has already been given. It will now be understood why Dr. Schliemann refuses to admit the sepulchral character of these monuments, for he claims that the tombs discovered by him in the Acropolis are those mentioned by that author. The probabilities against his theory are supplied by himself. In his work on Mycenæ, at p. 102, he asserts in a very positive manner that he has found the sepulchres as described by Pausanias, yet he is forced to confess that the tombs which he has lately excavated, as well as what he calls the tomb-stones above, could not have been seen by Pausanias, for "when he (Pausanias) visited Mycenæ, about 170 A.D., all the sepulchral monuments had for ages been covered by a layer of pre-historic debris, from 8 ft. to 10 ft. thick, on which an Hellenic city had been built, and had again been abandoned about four centuries before his time, after having added a layer of Hellenic ruins, 3 ft. thick, to the deep strata of pre-historic remains. Thus, he could only have known of the existence of these sepulchres by tradition." The statement in this last sentence being given without any reason to support it, it must go for what it is worth. The probability of a tradition lasting for so many centuries and coming down from a pre-historic age after all outward traces of the graves have disappeared beneath so many layers of rubbish, does not commend itself to our mind. Neither does it commend itself as agreeing with the words of Pausanias, who makes no allusion to any tradition, but speaks of the tombs as existing, and refers to them in the same terms as he does to the wall and the Gate of the Lions; hence, we may suppose that he saw them on his visit.

There is one very important point which I wish I could do justice to in this paper, but I can only allude to it; and that is, that these so-called treasuries, and the Gate of the Lions, belong to a style of architecture entirely different from that which we have been accustomed to call Greek. The term Pelasgic has been applied to all early Hellenic remains, but the word, like many others, is a doubtful one, particularly as we do not as yet know from what source the influence came, nor are we quite certain of the race who first produced it. This much we may safely say, that it is older than the style which we associate with the idea of classic Greek. We can also say that this style had an entirely different origin from that of the later Greek. The Greek temple is an imitation, in stone or marble, of a pre-existing wooden type. The Mycenæ remains have not the slightest indication of a wooden

origin. The style began from the first with stone, and with the placing of one stone on the top of another; most probably the rude Cyclopean walls were the first efforts at it. The third and fourth treasuries are very primitive attempts; in fact, they are more like the Dolmens of our own Druidic monuments than anything else. In them we see the rude beginnings of the style which led ultimately to such a splendid monument as the so-called Treasury of Atreus. Its substantial masonry has endured through a long course of ages, showing the careful work of its builders. It was all covered within with bronze; the holes of the bronze nails are still visible. In the British Museum there are one or two fragments of marble, with ornament upon them, which are supposed to have been part of the ornamental encrustation which was originally over the whole of the doorway, and of which Professor Donaldson made a restoration over thirty years ago.

I have identified the style of architecture of these monuments with that of the Gate of the Lions. The supposition that the builders of these last came from Asia Minor has to depend upon what is little better than traditional evidence, but this evidence finds support in the following quotation from Athenæus, which bears on the original constructors of these tumuli. He says, "You can see everywhere in the Peloponnesus, but especially in Lacedæmon, very large mounds which they call the tombs of the Phrygians, who came with Pelops" (xiv. 12). Athenæus is a late author; still, whatever value this statement may have, it goes so far to prove that those who introduced these mounds into Greece were the same as the Cyclopes, whoever they may have been, and it is also evidence that these mounds were not treasuries, but were tombs, as I have endeavoured to explain them. It may be added that Æschylus describes the tomb of Agamemnon, as "the mound of his sepulchre."—"Choephori," v. 4. Sophocles does the same; he makes *Electra* say, "For when I came to my father's ancient tomb, I see from the top of the mound," &c.—"Electra," 894.

(To be continued.)

## NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

HAVING the theatrical field to himself, and an energetic rival no longer in the way, Ryder might rest a little upon his oars; but he was not disposed to take it for granted that there was no more danger, so he resolved upon fortifying his position by adding to the attractions of his theatre. A writer often quoted thus describes the situation, and Ryder's brightening prospects:—"His theatre exhibited a pleasing, busy, bustling scene, where crowded houses sweetened nightly toils, and public patronage amply recompensed each well-meant effort. The Lord Lieutenant also frequently visited Smock-alley; and, whilst his presence added fashion to its circles, increased his own popularity." To secure the attendance of the Viceroy at any of the Dublin theatres in the last century was to secure a crowded house, and "command" nights were always considered good drawing ones. "His Majesty's Servants," however, had often to act in Dublin under other patronage than the Viceroy's; and in the course of our "Notes" it has been seen that our Dublin Lords Mayor were often enlisted to act as patrons to theatres that could not exhibit royal letters patent. On more than one occasion, too, in Dublin its Theatre Royal for the time being was worsted in its rivalry with other houses whose managers exhibited ability and energy, and presented continued good pieces and good performers. Royal and viceregal patronage as means to an end is good as far as it goes, but no amount of viceregal patronage ordinarily bestowed can keep a theatre from falling in the public estimation, and ultimately

\* By Mr. William Simpson, F.R.G.S. Read at the Society of Arts, May 29th.

\* See ante.

collapsing if its manager does not vary his entertainments by the introduction of good pieces and the securing of good performers. A succession of new plays and fresh performers is in itself not sufficient to ensure success.

It will be found as time advances that several of the olden comedies and tragedies that pleased our grandsires are, with a little judicious pruning, well calculated to please their grandchildren; and that Shakespeare, Sheridan, Goldsmith, and a few other English and native dramatic authors, are likely for long years to bring good houses if their plays are properly put upon the stage, and find fitting interpreters. Here again we would venture upon a few called-for remarks necessary at all times, and as applicable in Dublin to-day (indeed more so) as a century ago. Dramatic criticism in monthly review or weekly newspaper a hundred years ago or less was by no means independent, but with all its shortcomings it could favourably compare with the ordinary newspaper dramatic criticism of to-day in London or Dublin. There are now a hundred or more magazines and journals for the one that existed a century ago, and theatres and performers have multiplied immensely over the three kingdoms; but with few honourable exceptions our dramatic critics of to-day are totally unfitted for the duties they assume. Here in Dublin, with perhaps one exception, our newspaper dramatic criticisms or notices are the veriest puff, thoroughly slipshod, and absolutely dishonest. Actors and actresses, managers and others are eulogised at every turn, and the most ridiculous descriptions of pieces and acting are inserted. Advertising is essential in these years to the conduct of most businesses, but why dramatic criticism or editorial opinion should be made subservient to managers' own views of their staff, or performers' opinions of their own abilities, needs, perhaps, no query. We lifted the veil once before in this city by exhibiting the character of its dramatic critics of the journalistic kind—the gentlemen of the “free passes” and the free treats, and the other go-betweens, who are allowed to promise a good notice as a condition for a certain order. The duty of a dramatic critic is not to puff but to honestly describe, if he is capable of the work; but where he is not, and surrounded with the influence we have indicated, what other result can be expected than mendacious lying in the form of fulsome eulogy of the most exaggerated character.

Returning to the Dublin season of 1774, we find that the musical entertainment of “The Deserter” made its first appearance in this country about that time, and is said to have been favourably received. The Louisa of Mrs. Sparks and the Skirmish of Vandermere proved attractive. We read also that among the varieties produced at the Dublin theatre during that season were—“Sieur Powlaskie, the Polander; Monsieur Bissant on the slack rope; and an animal company of performers consisting of three monkeys, a hare, a dog, and a horse, who, under the direction of Sieur McCrowskie, performed a *petite pantomime*.” This form of entertainment in a public theatre did not meet with any great degree of success, and had soon to be relegated to a more fitting place of exhibition.

Monsieur Bissant alluded to above was no other than S. Bisset, of “Learned Pig” notoriety (not Bissant), a very successful trainer and teacher of animals, of whom some account will not be amiss, as he was settled in this country for several years. Bisset was a native of Perth, in Scotland, where he was born in 1721. He served his time to a shoemaker, and afterwards went to London, where he married a woman of some property. He next turned broker, and accumulated a good deal of money. About 1759, in reading an account of a remarkable horse shown at the fair of St. Germain's, led Bisset to try his hand on a horse and dog, and in training them to perform, succeeded beyond his expectations. He next took to monkeys, cats, and other animals, and was equally successful.

Under his conduct at the Haymarket, London, was exhibited the “Cats' Opera,” in which the horse, the dog, the monkeys, and the cats went through their several performances successfully, the crowded houses bringing in a few days to Bisset nearly a thousand pounds. He next taught leverets to beat upon a drum, and next followed canary birds, linnets, sparrows, &c. We read that he trained sixty turkey-cocks to go through a regular country dance; but in this case we believe he heated the floor upon which the turkeys danced. The time expended by Bisset in teaching his animals to perform must have been considerable, and while engaged in teaching he could not add much to his receipts. He was obliged to make an itinerant exhibition of part of his group, and to sell others. About 1774-5, he exhibited his animals in Dublin, to the great astouishment of many people. He next took to the north-west circuit, and settled down for a while at Belfast, where he established himself in a public house, resolving to have nothing more to do with performing animals. He did not keep his resolve long, for he found his old tastes and habits too strong to overcome. He trained a cat and dog to go through many astonishing performances. These animals remained many years in the possession of his widow in Belfast. After trying some experiments upon goldfish, the obstinacy of the pig suggested to Bisset that a series of trials with that animal might result in success. He purchased a black sucking pig in the market of Belfast for three shillings, and commenced its training, teaching it to lie under the stool or seat upon which he sat while at work. After seven months' trial with the young boar, he was about giving up his attempt in despair when a new mode of teaching occurred to his mind. After the lapse of sixteen months, his experiments were crowned with success, the obstinate piggy becoming tractable.

In the summer of 1783, Bisset became once more an itinerant, bringing his “Learned Pig” to Dublin, exhibiting for two or three evenings at the Ranelagh Gardens. Contemporary accounts inform us that the pig appeared as pleasant and good natured as a spaniel. Bad weather rendered it necessary for the exhibitor to remove his learned animal to the city; and, obtaining permission from the Lord Mayor, Bisset announced an exhibition in Dame-street. Of this exhibition a local writer has left us the following account:—“It was seen for two or three days by many persons of condition, to spell without any apparent dictation, the name or names of those in company; to cast up accounts, and to point out even the words thought by persons present; to tell exactly the hour, minutes, and seconds; to point out the married and unmarried; to kneel, and make his obeisance to the company,” &c. “Poor Bisset,” continues the writer, “was thus in a fair way of bringing his pig to a good market when a man whose ignorance and insolence disgraced authority, broke into the room, without any sort of pretext, and, armed with that brutality which the idea of power gives (what Shakspeare calls) ‘a paltry petty officer,’ he assaulted the unoffending man, broke and destroyed everything by which the performance was directed, and drew his sword to kill the swine, which Pope would have called ‘half reasoning’, instead of ‘grovelling’—an animal that in the practice of good manners, was at least the superior of the assailant. The injured Bisset pleaded without purpose the permission he obtained from the Chief Magistrate; he was threatened to be dragged to prison, if he was found any more offending in the same manner, in consequence of which he was constrained to return home, but not before the agitation of his mind had thrown him into a fit of illness, from which he never effectually recovered.”

Poor Bisset died a few days afterwards at Chester, on his way to London. The writer of what we above quoted concludes his notice of Bisset with the following very caustic remarks:—“Had this man been born to affluence, and possessed of the learning of a

Sloane or a Woodward, we might have seen him courted by the academies of Europe, and employed in the Royal Society of London, introducing some *amiable brute* more worthy of the honour of F.R.S. than Mr. Richard Twiss, or many other human animals of pretended genius, who bear about this mockery of *erudition*.”

Learned and unlearned pigs—particularly the latter—have often been used to “raise the wind” in Ireland, but whether they see the wind, as it is proverbially said, in this country the pig sees the road before him on which he is driven, and is generally inclined to go in the opposite direction, for very obvious reasons. The pig, let us add, has given compounds to the English language. To be pig-eyed is to have small eyes sunk deep in the head; and to be pig-headed, is not only to be obstinate, but to be stupid, and to possess betimes a large head with little in it but if contemporary accounts, are to be credited. Bisset's pig and other animals were certainly learned ones,—which is more than can be said of the majority of our dramatic critics of our day.

Reverting to Smock-alley in the season of 1774, a number of gentlemen connected with the army and navy associated and performed several plays and farces, the proceeds arising having been applied to charitable uses. Among the institutions participating were—Meath Hospital, Hibernian School, the relief of soldiers' wives and children, &c. The object was a most commendable one, and the performances fully answered the purpose intended. Several of the gentlemen who acted on this occasion figured afterwards in private theatricals in Dublin, and on the boards of Fishamble-street Theatre.

#### CONCRETE COTTAGE CONSTRUCTION.

THE following account of cottage construction in concrete, written by Mr. C. Raleigh Chichester, of Rungnamoat, County Roscommon, is well entitled to the consideration of the landed proprietary of Ireland, and others interested in providing cheap and improved accommodation for the agricultural and artisan classes. Mr. Chichester gives his own experience, and from our knowledge of his efforts we consider them well directed, and we trust he will have many imitators:—

It is often made a subject of reproach to the labouring classes that they are dirty, untidy, and thriftless; yet if we reflect for a moment upon the conditions of existence which are forced upon them, and especially if we view their habitations, it must be admitted that they are scarcely to be blamed. Before we can, with any justice, impute blame to them in these matters, they must be decently housed. Of course they cannot build suitable dwelling places for themselves—this must be the work of their employers;—most persons are sensible of what is wanted, and many are willing to do what they can in providing for the decent comfort of those they employ, but are deterred by fear of the expense. I claim credit to myself for having attempted to show that the expense is not so great as is generally supposed. I have just built a small cottage, which I am about to describe, containing five rooms, at a cost, up to this, of sixty pounds. Several small matters still require to be done to bring it up to the necessary standard—for instance, I shall give a whitened lathed and plastered ceiling to the down-stair rooms, and shall plaster and whiten the walls, and, to hide the timber work, and to equalise the temperature, shall give the upper room a ceiling of stained and varnished five-leaf board. Still, without any of these things, the house is in a fit state for decent and comfortable habitation, and is far superior in those requirements to the dwellings of many a snug farmer. I consider five to be the least number of rooms consistent with the proper and decent amount of comfort which every man with a family ought to endeavour to obtain. No bed ought to be allowed in the room where the cooking, washing, and other household work is carried on, and where the family meals are taken. There should be separate rooms for boys and girls, and the man and his wife should also have one to themselves. There should also be a fifth room for storing provisions, tools, and such like.

In my cottage I have aimed at nothing farther

than to give the smallest amount of accommodation absolutely essential, at a minimum of cost.

The walls and roof are of concrete, and the lower floor will also be of concrete. The flues and chimney-breasts, window and door sills are all of concrete. The kitchen or living room, which is entered from the outside, measures 12 by 14 ft., and is 7 ft. high to ceiling. On each side of the fire-place is a door communicating with separate sleeping-rooms, each 8 by 6 ft. 9 in. These rooms, though small, are large enough for the purpose, and are light and well ventilated, each having a small fire-place and an iron window, with lozenge-shaped panes. These windows measure 32 by 22 in., and the upper third of them opens on a central pivot.

The kitchen has two windows—a double one opposite the fire-place, measuring 39 by 29 in., and another in the wall opposite the entrance-door, measuring 38 by 32½ in. Between the first-named window and the entrance door is a staircase, with eight straight and three winding treads and risers. This leads into a room having the same area as the kitchen below—a door opens from it into a fifth room, which is over the two sleeping rooms down stairs, and has their united area plus the thickness of the partition wall. These two rooms have each one window in the gable ends, 31 by 33½ in., of the same character as those below.

To save expense these rooms have been constructed (so to speak) in the roof; the side walls are 5 ft. high. The height in the centre of the room is 8 ft. 7 in., but three collar braces cross this space at a height of 6 ft. 6 in. from the floor.

The roof deserves a few words to itself. It is supported by ten purlins, each 5½ by 2 in. These purlins run the whole length of the house, and are supported by the two ends and the partition walls, and by three principal rafters, 4½ by 3 in. collar braces. The first course of this roof, which is 4 in. thick, was made from the outside, the remaining courses from the inside, spread upon boards, temporarily secured to the purlins. The operative standing on a platform inside the house, with his head and shoulders well over the course previously made, trowelled the one in hand and left it flat, and even with the one already set. These courses do not lap, but run into each other, and the roof forms one even surface on each side. The slope is, as is common in slate roofs, one of 25 degrees.

It cost me as follows:—

|  |          |
|--|----------|
| Four tons sand, say ..                           | £1 0 0   |
| 18 cwt. Portland cement, carriage included .. .. | 2 14 0   |
| Labour .. ..                                     | 5 3 8    |
| Timber .. ..                                     | 3 17 1   |
| Total .. ..                                      | £12 14 9 |

Which comes to about £2 16s. 8d. a square. The roof costs less than slate, is less likely to get out of order, is more easily repaired, and is not liable to the ravages of fire, insects, or vermin. In its present state it does not leak, but there is, in heavy rains, a soakage, which shows itself in a little damp on the purlins. This can be easily remedied by a coating of boiled pitch and tar, with a dash of sand. Such coating would last for ten or twelve years without renewal, but the proper and permanent plan would be to run ivy all over the house, roof and all.

The entire house stands me in as follows, and any respectable person, curious in the matter, can inspect the bills:—

|   |          |
|---|----------|
| Labour in foundations and building ..             | £25 16 6 |
| Woodwork from T. and C. Martin ..                 | 5 19 6   |
| Carriage of do. .. ..                             | 0 18 5   |
| Windows from T. Sheridan .. ..                    | 4 2 6    |
| Carriage of do. .. ..                             | 0 6 7    |
| Cement, 5 tons 8 cwt. .. ..                       | 16 8 6   |
| Gravel, 54 tons at say 3s. .. ..                  | 8 2 0    |
| Field stones and do. in old walls, no value .. .. | " " "    |
| Total .. ..                                       | £61 14 0 |

I do not mean to say that a cottage of like dimensions could be built, under all circumstances, for £61 or £62. I merely claim to have shown that reasonable accommodation can be given the labouring classes at a cost which need not cause alarm.

With regard to the ivy covering suggested, I believe it to be the most suitable as well as most ornamental. It is well known that ivy will render dry the dampest wall. There are two objections to its being applied to ordinary houses—one is, that it pushes the slates off, and the other is, that it makes too good a rat-ladder. Neither of these objections apply to concrete houses; the ivy cannot get under the roof and spoil it; it must go over and protect it. With regard to rats, a rat getting into a concrete house would have a bad time of it.

We quite agree with Mr. Chichester when he admits that a cottage of like dimension to that described could not be built under all circumstances at the cost stated. With regard to his last item, "field stones," &c., which he puts down as of "no value," as they

were easily procurable in his case, we must remark that in many instances their procurer will involve expense. A good deal depends upon locality and local circumstances, liberty to take and use what may be considered waste, and facilities in obtaining local building materials where they are in abundance.

Of concrete building generally we hold very favourable opinions. Properly manipulated, it is a strong and lasting form of construction. It is economical too, and susceptible, in a combination with other materials, of being made ornamental as well as useful and durable.

## CORRESPONDENCE.

### WHAT IS A BOULDER ?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your article on Bray Esplanade, under the heading of "Home and Foreign Notes," in issue of 15th inst., there is a statement of Mr. J. Hargrave Bridgford's as to boulders, in which he (I think) properly distinguishes between stones thrown up at every tide and what should bear the designation referred to. The article goes on to state that another correspondent says that Mr. Bridgford's letter confirms the original statement—i.e., that cart loads of "boulders" were removed from the beach, and refers to non-technical dictionaries for definitions of the word.

Now, with every respect for your correspondent's opinion, I believe that the last three lines that you quote from Mr. Nuttall are the only ones that give an approach to a true definition, and it does not at all follow that to be a boulder the stone should be rounded, especially by the action of water. In my wanderings for years through Ireland, and more especially on the coast, I have met with some curious examples of boulders, perhaps the County of Donegal contains the greater number of any portion of the country; and, although I have seen many in connection with the supposed ice-rubbed carboniferous slates of Cork, they were for the most part native stones, excepting one remarkable specimen of blue porphyry at Dirk Cove, near Dundeady Island.

With respect to those of Donegal, an episode occurred in 1861, which may be of interest to your readers, and worth relating. I had made my plans for the re-erection of Aranmore Lighthouse, and specified that the buildings were to be of granite, the contractor to have permission to use any portion of the stones of the old tower suitable for the new. The plans were issued by the then "Port of Dublin Corporation," and six parties of the highest respectability in trade tendered. Of these, five were very close in their estimates, but the sixth was so much below the others that I was directed to ascertain if there was any mistake that would account for the discrepancy. There was no mistake, but the late Mr. William Crowe was the only contractor who had ascertained that, although the island was composed of a very inferior description of slaty rock, there were granite boulders sufficient for his purpose, and to be had almost for the removal; thus, expensive land and water carriage were avoided, and his estimate, although so much lower than his contemporaries, was ample for the work, and gave a paying profit. In no case were these "water washed beach stones" or "moderately sized stone of a rounded form"—they were masses, varying in size from thirty or forty to several hundred tons, and, in no instance, native granite. I have seen in the neighbourhood of Gweedore, Dunlewey, Falcarragh, and Crowley Head, boulders of granite or syenite, silicate of alumina, and greenstone, lying on native granite, white marble, serpentine, soapstone or steatite, and silurian limestone, all bearing evidences of some conveyance of a remote period, probably ice, but certainly not water.

JOHN S. SLOANE.

Clontarf, 18th June, 1878.

## NOTES ON CONCRETE AND FIRE-RESISTING MATERIALS.\*

In the first volume of the "Transactions of the Royal Institute of British Architects," there appears the Prize Essay upon "The Nature and Properties of Concrete," by George Godwin, jun., Associate. In more recent years, the attempts to use cement concrete as a building material for ordinary constructions, in many cases attended with remarkable success, required consideration; and on June 5, 1871, Mr. Thomas H. Wonnacott, in a paper "On the use of Portland Cement Concrete as a Building Material," fully described the advance which had been effected. Mr. A. W. Blomfield at the same time contributed "Remarks on Concrete Building." The continually increasing importance of the subject led to its being further considered in 1876, when, on April 10, Mr. Alexander Payne read before the Institute an exhaustive paper on "Concrete as a Building Material": in this paper, and the succeeding discussions, continued on May 15 and May 29, a large amount of valuable information will be found. The advance that has continued to take place in the application of concrete, and the importance that attaches to an interchange of opinions and experiences of its use, have induced the council to select the subject for consideration this evening. In the discussions referred to, numerous instances of remarkable success were given, especially in the construction of floors, such as plate floors, 12 ft. 6 in. by 11 ft. 6 in., of a uniform thickness of 7 in., bearing 4½ in. on walls, without girders, iron or other supports; a plate floor, 20 ft. by 15 ft., 6 in. thick, loaded with 2 cwt. to the foot, without deflection; a balcony, 50 ft. long, 4 ft. projection from the wall, 11 in. thick at the wall, and 3 in. thick at the outer edge, supported merely by the adhesion of the cement to the wall. The success which had attended these bold experiments led to the anticipation that even more striking successes might be obtained; and, should time permit after the discussion of the more important section of the subject—Fire-resisting Constructions—it is to be hoped that full advantage will be taken of this opportunity, and the results of experience since 1876 be freely communicated, not only with regard to such exceptional feats, but especially with relation to:—

The formation of walls for ordinary constructions, whether solid or packed with large fragments in the interior.

The use of iron bonds or ties in particular situations. The homogeneity of concrete structures: their liability or otherwise to vertical fissures, or to splitting up into sections.

The damp-resisting qualities of different descriptions of walls; the conditions under which they are weather-proof without external rendering.

The liability in certain atmospheric conditions to condensation of moisture inside the building.

The sonority of such structures; if any inconvenience is found to arise from the free conduction of sound, more particularly where the walls, floors, and roofs are constructed of concrete; and details of the remedies found to be effectual.

The adoption of any less expensive material than Portland cement, such as selenitic lime.

The external decoration of the wall surfaces. Ascertained facts as to the comparative advantage of different kinds of apparatus and cost of work.

The other branch of the subject for consideration,—Fire-resisting Constructions,—has, since 1854, when the French systems and Fox and Barrett's patent were discussed, been frequently considered by the Institute. Professor T. Hayter Lewis, in a paper read April 3rd, 1865, summarised preceding experiences; and from them the following conclusions were drawn:—

1. Iron is unsafe owing to the risk of fracture, and the loss of strength attendant upon great heat.

2. Stone and other substances known to be combustible are not therefore fireproof, but, on the contrary, their use, as they are commonly applied, is often the source of great danger.

3. Concrete in which silicious material is used is

\* By Mr. Arthur Cates. Read at Fifth Conference of Architects.

readily destroyed by fire; fire-resisting capability can only be attained by the use of material which has already been calcined, such as clinkers, broken brick, broken pottery, stamped or ground up, and similar material.

The subject was further considered at the Conference Meeting of May 25th, 1871, in the discussion following papers read by Professor Lewis and Mr. Charles Fowler, and in the published reports of these proceedings very valuable details will be found. Since this period very great attention has been devoted to the subject, and it may suffice on this occasion if I briefly refer to those few systems which appear to me to be most worthy of consideration.

Mr. Matthew Allen, in his patent for fire-proof buildings, dated January 30, 1862, had described his improved method of making fireproof buildings by the combination of cinders, slags, coke-clinkers, or other calcined substances with Portland or other cement, and he has largely carried out this principle in the lintels and stairs of the numerous buildings in the erection of which he has been concerned. His material was subjected to a severe test in 1871, when a six-story building erected for Messrs. Waterlow and Sons in Hill-street, Finsbury, was partially destroyed by fire. In this building his improved concrete had been used for lintels over double iron doors, in party-walls, and over all door and window openings; by the fire the iron doors, columns, girders, floors and roofs, and all the ordinary stone-work, were destroyed, and even the granite paving of the court-yard was considerably damaged. York landings, 3 ft. by 8 ft. and 6 in. thick, forming the cills under the iron doors, were entirely destroyed, while the concrete lintels above, which had been exposed to much fiercer heat, were quite unhurt. This remarkable success led to the adoption of this material on a large scale in the new buildings erected by Messrs. Waterlow, where the floors are formed of concrete 7 in. thick, and all the girders and ironwork of the floors are inclosed in this material. Concrete thus prepared has not only great fire-resisting power, but it is otherwise strong. Mr. Allen having used it for templates, bases, &c., and using 5 parts of clinkers to 1 of cement, he has found templates 18 in. square support a load of 170 tons without perceptible effect. For ordinary purposes Mr. Allen uses a proportion of 8 to 1, or, where greater strength is required, 6 to 1. He also recommends that the bottom flanges of all girders should be bound round with wire and covered with the material to protect them from fire; and that pieces should be cast to fit round columns, or iron wire being bound round to form a key, the material should be worked round in the ordinary manner.

The necessity for efficiently protecting the iron beams which constitute the element of strength in ordinary floor constructions, although so clearly demonstrated in 1865, did not, so far as I am aware, receive a practical application till about 1873, when Mr. John Whichcord, at the National Safe Deposit Company's Building, Queen Victoria-street, having for the exterior selected "Minera" stone, as a sandstone promising satisfactory fire-resisting power, next proceeded to devise a really fireproof floor; and as the requirements of the superstructure did not admit of any internal wall, and the points of support by columns were limited to two or three, there was no alternative but to employ iron girders for supporting the arches of the floor; to protect these from the action of fire. Mr. Whichcord devised a fire-brick and clay-casing inclosing the flange, and by actual experiment (detailed in his paper read January 17th, 1876) on a girder 14 ft. 9 in. span, the protection was found to be sufficient, the girder so protected resisted fire for long periods, remained uninjured, and was used in the building. The iron columns were protected in a similar manner, and thus the first practical step to the production of a really fire-resisting structure was made.

Mr. Lewis Hornblower, of Liverpool, patented in 1871 and 1873 a system which

appears to be somewhat complex, and which he calls the "Cellular Terra Cotta Fireproof Girder Floor," in which the rolled iron joists, about 2 ft. apart, are cased with hollow skew-back springing tiles of fireclay filled in with concrete, the interspaces being filled in with hollow voussoir-shaped tiles, and the whole floated in with liquid cement or concrete. This system has recently been adopted by Messrs. Pennington and Bridgen in the erection of the Manchester Pantechnicon. For a room, 24 ft. by 24 ft., the cost is stated to have been 25s. per square yard. A similar floor at the Liverpool Corn Exchange, 27 ft. 6 in. span, cost 32s. per square yard, fixed complete. I understand, also, that Mr. Honeyman has used this floor in some four instances.

In 1876 Mr. Northroft obtained a patent for a more elaborate system, by which all girders and joists would be completely encased in fire-clay tiles or blocks, and the interspaces filled in with similar tiles or blocks, voussoir-shaped and joggled together in such a manner as to form a flat soffit and upper surface.

The protection of columns is not less important than that of girders, but beyond the suggestion of Mr. Allen, and the actual work of Mr. Whichcord as before mentioned, they appear to have been in some degree neglected by inventors; in 1877, however, a patent was granted to Mr. Lake, on a communication from Messrs. Drake and White, of Chicago, for the protection of iron columns against the effects of fire and the effect of water on heated iron columns in burning buildings, by surrounding such columns with fireproof cores of terra cotta, concrete blocks, or other non-conducting material forming an annular exterior, filled in and grouted with cement; this appears to be very much what was done by Mr. Whichcord some four years ago.

To illustrate the slowness with which knowledge of the first principles of fire-resisting construction has spread, and the absolute necessity for the subject being considered and discussed at meetings such as this, I may refer to a patent obtained in 1876 by a gentleman describing himself as an engineer,—"for improvements in the construction of fireproof and other buildings,"—consisting of the formation of the floor arches as three sides of a polygon, in place of circular segments, the illustrative diagram showing the *exposed bottom flanges and tie-rods*, which render such construction anything but fireproof. These few instances hardly illustrate the energy with which inventors have recently turned their attention to fireproof structures, about as many as eighty patents having been granted in the last five years as to bearing on the subject; the majority, except those I have mentioned, and those of Mr. Brannon and Mr. Hyatt, being of very small importance. Many hope to obtain success by the circulation of water through hollow walls and floors; others by making the roof and floor shallow tanks, ever ready to discharge their contents on all below, by providing every compartment of a building with a central rose, connected with a large reservoir; by perforating the entire ceiling connecting it with a water-tank; or by perforated tubes connected with the street mains, and distributed over the building in such positions as to command the whole or any part. And on the occurrence of a fire to automatically bring the water to bear upon it; but all these devices are foreign to the subject for consideration this evening.

Among the active patentees, Mr. Philip Brannon deserves special mention; his inventions all merit careful consideration; the successful experiments in which buildings constructed of his material have resisted fire, and its apparent non-conducting powers, are probably familiar to all. The application of concrete in the form of so-called "stone felt," to the production of doors appearing likely to form far more efficient protection from fire than it has obtained by the familiar iron door, deserves more attention than it has received; and the application of the same

material for the protection of that portion of the timber framing of the cupola of St. Paul's accessible to the visitors, which has been inspected this week by the members of the Conference, reflects great credit on Mr. Penrose for having adopted it, and on Mr. Brannon for having so well carried out the work.

Mr. Lascelles is also working in the same direction, or rather is advancing far beyond what has hitherto been done; and as a result of the endeavours of these gentlemen we may now erect a comfortable residence, in which combustible material, even in the fittings, shall be the exception,—the joinery, doors, window-frames, and all, being in concrete.

The inventors who have taken up this subject appear in many instances to be merely groping their way, and it is but seldom that their patents are the result of, or are supported by, well-considered and systematic experiments; and to this deficiency of scientific application the slowness of the progress hitherto made may be mainly attributed.

However, the most recent, and in some respects probably the most important, contribution to the literature of fire-resisting construction, is the well-illustrated volume printed last year for private circulation, by Mr. Thaddeus Hyatt, whose lens lights and pavement-illuminators are so well known, and who has obtained a large number of patents relating to the subject. This essay is entitled,—"An Account of some Experiments with Portland Cement Concrete, combined with Iron as a Building Material, with reference to economy of metal in construction, and for security against fire in the making of roofs, floors, and walking surfaces."

There is one material to which I have not yet alluded, and whose merits as available for fire-resistance have not received universal recognition—it is wood. For, although in large fires timber posts and girders have sustained comparatively little injury,—while iron columns and girders, thought to be "fireproof," have been utterly destroyed,—any form of construction in which the angles and edges of the wood were protected from fire action was not devised till Mr. Hyatt's patents of 1871 and 1873, who, adopting the principle that to use timber in a way to have it fireproof, it is only necessary to have enough material prepared to lay the timbers side by side, so as to expose to flame only the upper and under surface. In 1876 Messrs. Evans and Swain obtained letters patent "for the construction of floors and roofs of great strength and simplicity, and possessing perfect fireproof properties;" they, like Mr. Hyatt, take advantage of the property which solid timber possesses of resisting the action of fire for a lengthened period, provided the fire attacks it only on the surface, and does not play round it. They take ordinary wood joists of any uniform depth and any thickness,—2 in. or 3 in. preferred,—place them side by side close together, and bring them laterally into close contact by bolts or spikes, and as a protection to the under-side drive in flat-headed nails and render it with a thick coat of plaster. Solid staircases can also be built up in a similar manner. This form of construction has been subjected to the usual course of successful experiments and appears to possess much merit; it has been used by Mr. Ewan Christian in a public office, and is now being adopted in an extensive range of new warehouses, in course of erection at the East India Docks, under the direction of Mr. Manning. And with the sanction of the Wharfs and Warehouse Committee, the system being adopted in place of that originally required by the committee, viz., wrought-iron girders and concrete or brick arches, supported by cast-iron columns covered with 4 in. of terra-cotta,—timber story-posts being also used,—a saving in cost of construction amounting to about £9,000 having been thus effected.

There are other systems for combinations of timber and terra-cotta,—fire-clay and concrete casings to protect the timber,—such as those of Mr. Thwaite, Mr. Moore, and Mr.

Butler, but I leave their consideration to the discussion.

These brief and somewhat discursive notes will suffice to show that within the last few years the true principles which should govern the efforts to produce really fire-resisting construction, have been receiving some appreciation, and that very considerable advance has been made towards the realisation of the possibility of producing a building worthy of being designated as fire-proof.

## HOME AND FOREIGN NOTES.

Mr. John Byrne, who has for some time filled the post of clerk to the South Dublin Union, has been appointed Collector-General of Rates for the city, in room of Mr. Denis Moylan, who has been pensioned. Mr. Byrne has no easy task before him in setting in order the affairs of the Rates Office in Fleet-street.

We (old *Saunders*) would suggest to the sub-editor of the *Belfast Evening Telegraph* that when quoting leaders from the Dublin papers he should take the trouble to see what paper he is quoting from. The article which we published on the Strandtown Folly appears in the *Belfast paper* of Saturday under the words, "From the *Irish Times*." Our local contemporary can stand on his own merits.

**THE PUBLIC HEALTH COMMITTEES' OFFICES.**—At the late meeting of the Dublin Sanitary Association, Mr. Furlong, one of the members, thus described the present offices of the Public Health Committee:—"Up a flight of stairs, round a dark corner, and, on some occasions, when people did reach that dark, well-concealed chamber, he was told there was no one in it. He proposed that the office should be placed on the ground floor, in some central position in the city, where everyone could find it, and that some person who could give information should be kept in it."

**REMEDY FOR WORM-EATEN WOOD.**—As a means for destroying the worms which make holes in wood, M. E. Laverazzi has found a mixture of carbolic acid and essence of turpentine sufficient. He recommends that a small bottle, containing about an ounce, should be filled with equal quantities of each, and the mixture applied carefully to every hole with a hair brush. It is indispensable that not a single hole should be omitted, otherwise there is no certainty of success. The insects will be seen to come out of the hole and die immediately, even before they are directly attacked, owing to the penetration of the liquid through the wood near them.

**A LONDON NOTE.**—A correspondent of a morning journal writes:—"The change that has taken place in the weather is something remarkable. For two days the glass has stood in the shade at 86 (noon), whilst Monday's register in the sun at Greenwich was 146, and on the Strand at 149. So far as this city is concerned the change has made us know that the Thames is still true to its traditional offensiveness. The stench is intolerable, whilst the suddenly heated sewers, after Sunday's waterspouts, send up a steam from the large trap openings that almost stifles one ten yards off. It is matter for congratulation that the harvest will be benefited by the tropical heat, but it is to be feared that the cities and towns will suffer from the sudden accession of extreme heat. The effect on places of amusement is most marked; theatres are almost deserted, and other places of entertainment of a lower grade are but thinly attended by broiling audiences."

**THE MORAL OF A STRIKE.**—The year is half way through, and the termination, or anticipated termination, of a second great conflict has enforced the lesson taught by the strike which was in full operation when 1878 began. The cost of the masons' strike, the earliest of the two great conflicts to which we have referred, has been estimated at about £60,000 to the operatives, and at least an equal sum to the employers. In the Lancashire strike there has, it is true, been a less confident tone assumed from the beginning. But then the magnitude of the movement has been enormously greater. Seventy-five thousand pounds per week is said to have been the amount of wages which the operatives were advised to give up! Three hundred thousand mouths had to be fed! A week's contest thus cost more than six months' of a local dispute like that of the London masons; and no auxiliary aid could be expected. The daily gap was too large for the friendly help of other unions or other classes of operatives. The advance towards starvation was not only perilously rapid, but was absolutely unchecked. With every one who took a dispassionate

view of the case the upshot was certain from the first.—*Builder*.

**DOINGS IN BLACKROCK.**—Mr. P. Barnes, C.E., the Town Surveyor, reports that the railway company have made the pipe sewers from the water-closets of the Salthill station along the line of railway for a considerable distance parallel to an already existing sewer. The new pipe sewer is 12 in. in diameter, and the old sewer is 9 ft. square. This new sewer is then turned into the old sewer, and discharges itself into the sea near the ladies' bathing place. The chairman considered that they should not allow the railway company to drain their sewer into that of the Blackrock Township outfall, unless what they were doing at present was merely temporary. The railway company had conceded that the outfall sewer in question was the property of the commissioners, but they at the same time considered that they were entitled to it from usage. If their new sewer, which the directors had already built, was merely for temporary purposes, they (the commissioners) would not take any action in the matter; but as they intended to intercept all the outfalls into the sea which at present exist, and which pollute the foreshore, it would be their duty to seek an injunction in Chancery, provided the railway company intended to permanently adhere to the present operation. Mr. Kelly.—It is shutting out the evidence of common sense to think they are not constructing their work permanently. It was ultimately carried that a letter be written calling on them to stop further advances in the use of the sewer already constructed.

**INDUSTRIAL SICKNESS.**—Industrial work of various kinds may produce in the lungs of the operative, consumption, bronchitis, asthma; in their hearts, palpitation, intermittent action, bloodlessness; in their stomachs, dyspepsia, vomiting, diarrhoea, constipation, colic; in their skin, ulceration and eruptions; in their brains and nervous system, headache, dizziness, paralysis, neuralgia. There is no doubt whatever that by far the greater number of these maladies might be eliminated from the catalogue, if proper precautions were insisted on by the employers, and carried out by the workers. The issues at stake are, it will be seen, of serious importance. The annual death-rate in England and Wales being taken at 25 in the 1,000, that of the industrial community stands at 27 in the 1,000. The former figures represent an annual mortality of 125,000 in the 5,000,000, the latter of 135,000 in the 5,000,000; consequently, industrial disease robs us of 10,000 lives annually. When there is added to this death-roll the great physical suffering which accompanies trade diseases, the loss of wages during periods of prolonged sickness, surely our earnest attention is urgently demanded to a sanitary reformation. There are about 900 factory surgeons throughout the kingdom, and right well are their duties discharged, in spite of miserable pay. But their powers of beneficial interference are too narrowly bound by stringent "regulations." They, of course, have the privilege of sending in "reports" to the Local Government Board; but, as a satire on State sanitation, it is from these *past* and present reports that the facts regarding *existing* preventable trade disease are gathered. The central authority has the strength of a giant; but it is, as all local governing bodies know, chained in the fetters of a stolid, immovable officialism. Were the factory surgeons intrusted with more extensive powers, a happier era might dawn on us; but, as it now stands, they are well-nigh sick of pointing out evils that are ignored, and of suggesting remedies that no body will use.—*Great Industries*.

## TO CORRESPONDENTS.

**AN IRISH BUILDERS' PRICE-BOOK.**—In reply to more than one correspondent, we have to say that we know of no distinct Irish Price-Book of a late date. There are two or three very good English Price-Books which are utilised by Irish architects, builders, and others. One or two weak efforts were made a few years since to bring out an Irish Builders' Price-Book, but the project dropped through, from causes which we need not enter upon at present. During the life of our native architect Francis Johnston, a pupil or assistant of his brought out a very useful work called, if we remember aright, "The Architect's and Gentleman's Measurer and Practical Assistant," or some such name. The author of the book in question was William Stitt, and the book continued to be used by our Dublin builders down to a few years since.

**A BELFAST ARCHITECT.**—Your letter would render a public service if you consent to append your name to it; otherwise it would scarcely be effective of any practical good.

**AN OPERATIVE CARPENTER.**—We cannot print letters full of political allusions. We are quite willing to afford your class all the help we can in a journalistic way in the matter of technical education, but politics and practical geometry do not run on the same line. In fact, the "lines" useful to you require a different "setting out," and cannot be developed in a political groove.

**RECEIVED.**—J. H. B.—C. E. (Cork)—A Builder (Dalky); thanks—Concrete—R. D. S.—A Marble Mason—M. D.—C. R.—&c.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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Illustration.

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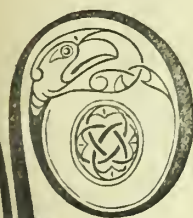
Contents.

|   | Page |
|---|------|
| THE "CITY FATHERS," AND THEIR PARENTAL POWERS                                   | 189  |
| Adversaria Hibernica—Literary and Technical ..                                  | 201  |
| Illuminating Gas from Water or Sewage ..  | 201  |
| The Belfast Improvement Bill ..   | 202  |
| Dublin Artisans' Dwellings Company ..   | 202  |
| The Science and Art Museum—Metropolitan School of Art ..                        | 202  |
| The Birth-Place of Michael Balfe ..   | 202  |
| Trades Unionism in Limerick ..  | 202  |
| Anent a National School-House ..  | 202  |
| Books Received ..   | 202  |
| Notes on the Early History of the Irish Stage ..                                | 203  |
| A Model Sanitary Inspector Depicted ..  | 203  |
| Mycenæ, Troy, and Ephesus ..  | 204  |
| St. Vincent de Paul Orphanage, Glasnevin ..                                     | 207  |
| Mural Painting ..   | 207  |
| The Irish Board of Works ..   | 208  |
| The British Archaeological Association ..                                       | 208  |
| The Inventor of the Microphone ..   | 208  |
| Stone-Quarrying—The Power of Dynamite ..  | 208  |
| The Recommendations of the Copyright Commissioners in regard to Works of Art .. | 209  |
| The Balfe Memorial ..   | 210  |
| Correspondence—What is a Boulder? ..  | 210  |
| The Royal Irish Academy—The Cunningham Prize Fund ..                            | 210  |
| Un-Professional Literature—Organ-Grinding Extraordinary ..                      | 211  |
| The Three Dogs—A Tale of a Foretelling Newsmen ..                               | 211  |
| Law ..  | 211  |
| A New Antiquarian Society ..  | 212  |
| The New Science and Art Museum ..   | 212  |
| Helonian-les-Bains ..   | 212  |
| The State of our Tramways ..  | 212  |
| The Staircase Hand of the Old School ..   | 213  |
| Home and Foreign Notes ..   | 213  |
| To Correspondents ..  | 214  |

THE IRISH BUILDER.

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THE "CITY FATHERS" AND THEIR PARENTAL POWERS.



ENDANT to our articles in the three preceding issues, the judgment given on Saturday, the 6th inst., in the Court of Queen's Bench, in the case of the Queen (M'Evoy) v. the Cor-

poration, comes at an opportune moment. The case is so important that we deem it right to furnish our readers with a summary. The Lord Chief Justice and Mr. Justice Fitzgerald supported their judgments with clear and cogently-reasoned argument, and Mr. Justice O'Brien also concurred generally with his brother judges. All were unanimous in quashing the additional Borough Rate, sought to be inflicted upon the citizens to make up for deficiencies caused by wanton and mischievous expenditure in the past. The Council of the Corporation thought they had a good case by contending that no *certiorari* could issue for the removal of the Borough Rate, alleging that the order was ministerial like a warrant, or as the counsel for the City Fathers expressed it, *ad computandum*. If this proposition could be proved, of course no *certiorari* could remove it, but the judges very properly discriminated between what are ministerial and judicial acts, and being convinced it belonged to the latter category, they held that the order was subject to the revision of the court. Any intelligent observer could see that the striking of the new Borough Rate was a retrospective act, and though under different circumstances such a measure might be allowed, yet viewing all the surroundings in the present instance, it was not only highly objectionable but absolutely unjust.

Mr. John M'Evoy is to be congratulated on his success; and, were there any proper public spirit permeating the ranks of our fellow-citizens (irrespective of sect or party), Mr. M'Evoy would be voted his deserts. It is not many days ago since one or more of our Liberal organs, speaking more or less always in the interest of the corporate body, made a number of uncalled-for insinuations as to the motives that prompted the now triumphant plaintiff. His lately-published pamphlet was made the groundwork of a most unwarrantable attack, and the arguments and proofs put forward in it, instead of being answered, were sneered at with an affected scorn that was highly amusing. The present writer is personally unknown to Mr. M'Evoy, and would not know that gentleman if he met him in the street; but the labours of Mr. M'Evoy in the interests of his fellow-citizens are well known to the writer, and have been attentively watched for several years past. Whatever may be the shortcomings of Mr. M'Evoy, one fact is patent—that he has heretofore, as well as now, rendered effective service to the ratepayers; and it would redound much to the credit of our Corporation and the management of its affairs, if it had a few representatives possessed of the practical knowledge of that gentleman. Men of Mr. M'Evoy's stamp are, however, not wanted in the municipal body by its present members, whether they belong to the Liberal or the Conservative party: for jobbery would then be as likely to be quashed as the new Borough Rate is now by a writ of *certiorari*.

The Lord Chief Justice said:—It has been contended in this case that no *certiorari* can issue to remove the Borough Rate, and this point must be first considered. It is established that the writ of *certiorari* does not lie to remove an order merely ministerial, such as a warrant, but it lies to remove and adjudicate upon the validity of acts judicial. In this connection the term judicial does not necessarily mean of a judge or legal tribunal seeking for the determination of matters of law; but for the purpose of this question a judicial act seems to be an act done by competent authority upon consideration of facts and circumstances, and imposing liability as affecting the rights of others. And if there be a body empowered by law to inquire into facts, and make estimates to impose a rate in a district, it would seem to me that the acts of such a body, involving such consequences, would be judicial acts. Cases have been cited in support of the proposition that a poor-rate will not be removed by *certiorari*. But these cases are founded not on want of jurisdiction, but because the order, being, as it is admitted, a discretionary order, it would be inconvenient in such cases to suspend a poor-rate. But in cases of inquiry by a jury to assess the value of land, it has always been held that these are removable by *certiorari*. The King v. Taylor against Norwiche-road (5th Adolphus and Ellis, page 563) is an instance. The Grand Jury Presentments, which have been always held removable by *certiorari*, are of a similar character; and although in these cases the fiat of a judge of assize is an element, yet that fiat is pronounced by such judge by virtue of a statutory power rather than in his judicial character as judge of one of the superior courts. The 114th section of the Poor-law Act (Ireland), 1 & 2 Vic., c. 56, declares that orders of the commissioners and guardians shall not be removable by *certiorari* except into the Court of Queen's Bench. And the provisions of the English Acts, 55 Geo. III., c. 51, and 12 Geo. IV., c. 49, with respect to the County Court rates, regulating proceedings by *certiorari* (referred to by Mr. W. D. Andrews), seem to amount to a recognition by the Legislature that the remedy of *certiorari* exists in cases of rates and assessments of a similar character. The section of the English Municipal Corporation, 5 & 6 Wm. IV., c. 7, sec. 132, expressly taking away *certiorari*, and for which no corresponding section is found in the Irish Act, seems to me pregnant with the same recognition. It appears also in this Court, a Borough Rate of the town of Wexford was removed and quashed some twenty years ago. This case was not argued, and, therefore, of course, is not of much authority. I think, on the whole, it is tolerably clear that a

*certiorari* does apply for the purpose of inquiring into the validity of a Borough Rate, and that it is much more convenient that the question should be discussed and decided upon by such an application as the present—that is, an action by a ratepayer resisting a distress, or rather proceeding for levying the rate. It remains to be considered whether grounds are brought forward in the present case sufficient to warrant the issuing of the writ. The rate is imposed for the purpose of levying a sum of £7,330, or thereabouts, being the difference between the estimated charge on the Borough Fund for the year 1878—viz., £33,330 5s. 1d.,—and the income of that fund—say, £26,000. But that estimated charge includes various items which, it is contended, are not legally chargeable on that fund. The first item impeached is that described as "Liabilities on account of temporary loans from other corporate funds, £5,410 17s. 1d." No explanation has been given of this item by the affidavit filed on behalf of the Corporation; but it would appear from the printed accounts of the years 1874, 1875, and 1876, that sums have been taken from the funds of the water-rate and grand jury cess accounts, and applied to make good the alleged annual deficiency of the Borough Fund in those years; and this sum of £5,410 17s. 1d. appears to include the aggregate of these advances. The rate in the present year is required, to a great extent, in order to make good these sums so advanced; *pro tanto*, it seems to me, that this is a retrospective rate, and, therefore, objectionable. Where the intention of the Legislature is that an annual expenditure should be met by an annual income, I think that a rate imposing a charge on the occupants of one year in order to make good expenses of former years, is objectionable. Upon this point it is sufficient to refer to the authorities which were cited in argument, including the King v. the Justices of Flintshire, (5th Barnwell and Adolphus). That case decided that an order of sessions for levying and paying to the treasurer of a county a sum to enable him to reimburse certain persons for an antecedent debt, though nominal, for county purposes, was bad. There are other cases in which a retrospective charge of gross sums in order to make good capital sums expended on improvements, is not objectionable. I think, however, the item referred to is objectionable on the face of it (*vide* Harrison and Sharkey, House of Lords' Reports, 108). I consider the item "Law and Parliamentary expenses, £1,000," also objectionable. The affidavit of the Corporation does not show the nature of these expenses, and it would appear to be a very considerable sum, put merely by conjecture. I think the item "Compensations," by which apparently is included a superannuation pension given to Mr. Crofton, also objectionable. No pension could, under the circumstances, I think, have been given to this gentleman without the consent of the Lord Lieutenant, which does not appear to have been obtained. The item of "Baldoye Town Labourers' Cottages," £2,000," is also, I think, objectionable. The affidavit of the Corporation does not explain this item. It does not appear by what authority, for what reason or manner this expenditure is proposed to be made. The item of £1,500 under the Artisans' Dwellings Act, 1875, appears unfounded. It does not appear that, up to the present date, any money has been advanced for the purposes of this Act; and it seems clear that, even if any money were advanced in this present year, it could not be necessary to raise any instalment by way of repayment till the following year. "Mansion House Expenses" are put down at £2,000. The nature of those anticipated expenses is not explained by the affidavit. The Corporation buildings are directed by the Municipal Corporation Act to be provided and maintained out of the Borough Fund. And it would appear that of late years large sums have been annually expended on furniture and gas for the Mansion House. If the Mansion House rested in the Corporation as a furnished residence, as I presume it does, a liberal interpretation of the statute might warrant a reasonable expenditure in keeping up the furniture belonging to it; but I must confess I do not see on what principle gas consumed in the residence of the Lord Mayor can be chargeable against the Borough Fund. To a large extent I think the item of £2,000 is objectionable. It would also appear that the item of salaries, £5,900, is excessive by some £400 or £500. I refrain from pursuing the complicated items of water bailiffs and city weigh-houses. I think it is clear that if the items above mentioned, and, in my opinion, properly impeached, be struck off, no necessity will arise for imposing a Borough Rate. I think that at least *a prima facie* case has been made against these items. The onus of maintaining the item was thrown upon the Corporation, and has not been discharged; and I, therefore, think the writ for the *certiorari* should be made absolute so far as respects the Borough Rate. A *certiorari* has also been applied for to bring up

the orders for payment of various sums, expenses of the Lord Mayor or of the officers of the Corporation in going to London to present a petition, costs of promoting bills in Parliament, pensions to officers, Mansion House expenses, and other payments already made, and included in accounts already audited and published. I think any decision on these points may properly stand over, it being admitted that the validity of the Borough Rate is the matter really in contest. The court would be extremely unwilling to rescind orders for payment already made, and which ratepayers had ample means of objecting to before the auditor, and may appeal from him to this court. To do so might occasion considerable inconvenience and hardships on individuals, and probably this part of the application will not be pressed.

Mr. Justice O'Brien concurred with the Lord Chief Justice that the writ of *certiorari* should go to quash this Borough Rate. In saying that, however, he did not consider himself bound at all if, on further investigation, when the case came back on *consilium*, fuller information were given them, to abide by that opinion.

Mr. Justice Fitzgerald—I concur in the general conclusion which the Lord Chief Justice has announced, and I would not say more but that I think the Lord Mayor and Council of Dublin, and the ratepayers, represented by the prosecutor, are entitled for their guidance to know the reasons which have influenced our decision, although it is but of an interlocutory character. Upon the preliminary, but important, question, whether a *certiorari* lies to remove a Borough Rate for the purpose of quashing it if made contrary to law, I entertained considerable doubts during the arguments, which have not been quite dispelled. It was urged on us on behalf of the Corporation that the *certiorari* lay at common law only for the removal of the proceedings of a judicial character, and not for ministerial acts. The proposition may be correct in theory; but is the making of a Borough Rate a mere ministerial act? or, as was said during the arguments, is the duty of a council in making it merely *ad computandum*? It seems to me that in exercising the powers given by section 133, the Lord Mayor and Council were acting judicially and ministerially. We must not confound the present Lord Mayor and Council of Dublin with the defunct Corporation which it succeeded, but with largely increased powers and with new and important public duties. The old Corporation was but an aggregation of guilds, having continuity, a name and seal, acting for their corporate benefit, and managing and disposing of their corporate property as they thought fit. The present Lord Mayor and Corporation, on the contrary, form a great statutable body, regulating largely the government of the borough and its local institutions, authorised to frame and put in execution by-laws "for the good rule and government of the borough, and for the prevention and suppression of all nuisances." They have vested in them the powers of the former commissioners for paving, cleansing, and improving the city, and the fiscal powers of the city, and sessions grand juries, and are public trustees acting on behalf of the public, and administering as such property and rates representing over £270,000 per annum. They further exercise under the Sanitary Code large powers, *quasi* judicial and ministerial. When the Lord Mayor and Council execute the power given by section 133, it seems to me that it cannot truly be said that they do so only in a ministerial character. Before arriving at the period at which the order for a Borough Rate may be lawfully made, they must ascertain with as much accuracy as practicable the probable net produce of the borough property in the ensuing year, and then ascertain and determine with precision the legal expenditure for the same period, confining themselves, in case of a deficient fund, not to what may be spent, but to the expenditure which ought to be made under such circumstances, and then, and then only, are they authorised to order a Borough Rate to be made. In determining this preliminary question, we are influenced by the consideration that if the prosecutor cannot have a *certiorari*, the ratepayers are without any sufficiently adequate remedy against a Borough Rate made contrary to law. The question could not be raised in an action against the Collector-General in the nature of an action of trespass and the only other remedies would seem to be an action to restrain the Corporation from making a rate, or an action against them as trustees to restrain the Borough Rate if made in abuse of their powers, and to compel a proper application of the trust property. The precedents in this court go to show that the writ lies in such a case as the present, and I am unwilling in the least to abridge the exercise of such an authority. There is not a word in all the Municipal Acts taking away this remedy, and on the whole the latter opinion seems to me to be that in the case before us the writ lies out of this decision,

which still possesses the supreme original authority of the Court of Queen's Bench, by virtue of which the Court is bound, as exercising the highest common law jurisdiction, to keep all inferior tribunals and jurisdictions within their bounds. I have now to deal with the case on its legal merits to be collected from the Corporation estimate. The estimate is the legal foundation of the order to make the rate, and ought to be clear and precise, so as to make out the necessity of a rate and the extent of the necessity. I propose to consider but a few items, which, if they disappear from the estimate, there would then be no deficiency to be provided for in the current year. As to the two sums of £1,000, £100, and £400 estimated in respect of the Artisans' Dwellings Act, I quite agree that they do not form proper charges for the financial years 1877-78. Similar increased items under the same head must appear in future estimates, but not in that for the current year. "Baldoye town labourers' cottages, £1,000," must, it seems to me, follow the same fate. The expenditure may be just and judicious, but no explanation has been given more than appears from the above entry in the estimates, and although a report of the late Law Agent has been alluded to, the document has not been brought before us. "Law and Parliamentary expenses, £1,000."—I do not understand this as representing any debt due by the Corporation, or any existing liability, but as representing a liability that may possibly be incurred in the current year. No explanation has been afforded, and we think that this item, which seems, at all events, to be very excessive, cannot be used to sustain the rate. I also concur with the Chief Justice in his observation on the pension to Mr. Croftm. Although I sincerely hope that some means may be taken by which that gentleman's rights may not be curtailed, I entertain the view myself that £300 a-year was not a shilling less than he ought to get for his services. As to the Mansion House expenses, I hope my lord (Mr. Justice O'Brien) will not be offended, or think I am making any departure from judicial decorum or propriety, if I do not agree with him as to the gas. It appears to me that the Corporation have full power over that item, and that they are entitled in maintaining the Mansion House, if they choose, to consider it one item of maintenance; and if the Court interfered with that right, I have no doubt that the Corporation would remedy the matter by increasing the Lord Mayor's salary by £500 a-year. The disputed items in the estimate on which the rate will be found mainly to depend is "Liabilities on account of temporary loans from other corporate funds, £5,410 17s. 1d." As to this also the Court has been afforded no explanation, and is left to grope for information amongst the previous annual accounts of the Corporation. It was impeached principally on the authority of *Woods v. Reid*. It seems to me that *Woods v. Reid* is not applicable. It is a technical decision relating to the prospective terms of the English Municipal Corporation Act, from which the Irish act differs in substance, and has been doubted by Mr. Justice Patterson in *Jones v. Johnston* (7 Excl., 456-7). The action of the Corporation as to this item of £5,240 is not to make a Borough Rate to provide for antecedent liabilities, but to appropriate the accruing income of the Borough Fund to make good any previous deficiency. I entertain no doubt that they may be warranted in doing so in a proper case, and not in the least infringe on the authority of *Woods v. Reid*. But the Corporation has given us no explanation and no real aid as to this item. We have to look into the printed accounts, which, though very complicated in consequence of their division under general heads, seem to afford full general means of information, and it is gratifying to observe that although examined, as I have no doubt, with microscopic scrutiny, no allegation has been made of any defalcation or any corrupt misapplication. I profess, however, my incapacity to unravel them, and protest against being obliged to grope through them for the necessary information. Referring to the printed accounts for the year 31st August, '74, to 31st August, '75, the cash account commences with £257 2s. 7d. to the credit of the Borough Fund, which would seem to represent a surplus for the preceding year, but this is not the correct view, for we find under the head "Expenditure," viz.:—"Temporary loan account, 1874, November 28, paid Committee No. 1 part payment on advances of £1,000; on 26th September, 1872, from North and South district reserve fund, £600. December 5th paid same committee balance of same loan, £500." There was, therefore, then, no surplus, and on the contrary the financial year 1874 commenced with one debt at least of £1,000 from 1862, and we know not how much more. The year 1874-75 terminated by a balance to the debit of the Borough Fund of £2,313 18s. 4d., but whether that represented the whole of its liabilities I have no means of ascertaining. The deficiency of 1874-75 was created by the increased expenditure of the Sanitary

Department, but in the face of this deficiency the Borough Fund was insufficient to meet the expenditure of the next year; then the Borough Rate should have been resorted to. In reference to the deficit of 1862, continued down to 1874-75, I would refer to the Master of the Rolls, Romilly, in the case of the Attorney-General v. Lichfield (11 Bevin 130), which, I think, puts a fair and true construction on the Municipal Corporations Act as pointing out the duty of a corporation:—"I think that upon a true construction of the Municipal Corporation Act it is the duty of corporations to provide as far as they can within the year, for the expenses of the year, by securing by means of a rate if other lawful means are insufficient, such an income as, upon a proper estimate, may be found necessary, and that they ought not to contract debts to be paid in future years to provide for the expenses then incurred. I consider that the rule is very important to be observed, and that to depart from it, habitually or frequently, would be very inconvenient, and would probably lead to further burdens of indefinite amount, and great prejudice to the corporation." This case exhibits the mischief pointed out by Lord Romilly, and shows how necessary a duty it is, that if there be a deficiency in any given year it should be provided for by a borough rate, and not throw the onus on posterity. Upon these grounds, I agree with the Lord Chief Justice that the order for the levy of this rate should be brought up to be quashed.

The conditional order for a writ of *certiorari* is now made absolute.

Counsel for Mr. M'Evoy, the prosecutor—Mr. Samuel Walker, Q.C., Mr. Hugh Holmes, Q.C., (Law Adviser), and Mr. Constantine Molloy, instructed by Mr. P. Coll.

For the Corporation—Mr. J. O'Hagan, Q.C., Mr. W. D. Andrews, Q.C., and Mr. Bewley, instructed by Mr. John MacSheehy.

In conclusion for the present, we may add that we have, in former years, often drawn attention to the way in which accounts were presented in the Corporation balance-sheets. These reports or statements were almost invariably some months behind time—considerably so,—and this happened so often as to lead to the well-grounded suspicion that the delay in their publication was purposely designed to prevent discussion or overhauling. If honest members of the municipal body, or practical journalists, could procure these balance-sheets at the end of any current year, or a few days or weeks later, one or both might be tempted to dissect them in the public interest, and nip jobbery in the bud. Fear of public discussion led directly to delay; and when the accounts were at last presented, they came forth in such a complex shape that it became a matter of extreme difficulty to anyone who had not a good deal of spare time on his hands to unravel them. There were several measures which were brought forward from time to time by our Corporation which came quite under the scope of our advocacy, and which we were disposed to advocate, because they partook of public and social improvements. We have, however, several times been forced to examine closely, for our own satisfaction, measures of improvement projected by the Corporation, before we could venture on commending them to the public. The trick of projecting a number of city improvements is an old one with the present Corporation,—improvements that are rarely carried out, and which are often otherwise allowed to stand in abeyance for years. From time to time, these new, or rather long-talked-of, improvements, are trotted out when the municipal body are in want of a cry. We cannot be a party to deceiving the people, much as we desire to see Artisans' Dwellings and Labourers' Cottages erected. We have no hesitation in saying that the Corporation for several months have been playing fast and loose with the question of Artisans' Dwellings. When the proposed sites of some of these are being cleared, it may be found that certain "wise

and prudent" representatives in the Municipal Council have pulled the wires effectively in helping themselves, while aping the rôle of public philanthropists, in providing dwellings for the working classes. The history of the Baldoye Estate and its municipal management, if written, would form a remarkable chapter in itself; and so, we might add, would the history of every public improvement attempted, begun, or finished by the Corporation during the last twenty years. We trust the cheek the Corporation have now received in their long and headlong scamper of extravagance will prompt them to reflect a little, and come to the honest conclusion that it is "never too late to mend." A re-organization of the offices of the municipal body, is one of the first steps that ought to be taken. This, if properly carried out, would lead to a husbanding of the resources, and to an income sufficient to meet the present wants of the Corporation, as well as enabling it to proceed with the needed public improvements.

## ADVERSARIA HIBERNICA,

### LITERARY AND TECHNICAL.

THE native Irish were by English chroniclers described as uncivilised, and somewhat barbarous, not only in the Elizabethan era, but even a century and upwards later. Now, although the condition of the Irish peasantry was very sad throughout portions of the eighteenth century in various districts, yet neither in the Elizabethan era nor that of Anne, or the first Georges, were the peasantry of Ireland a whit more ignorant or degraded than their brethren of the soil in England. We could present pictures of English social life nearly as bad as it possibly could be, in the reigns above mentioned. The disturbed state of Ireland contributed to its poverty; and though we are not inclined here to enter into the political or religious contributory causes, we point to them, and deplore the results. Farming was neglected; and Ireland being an agricultural country, there was little trade or manufactures for creating comfort by supplying wants, and, at the same time, adding to the national wealth. England, in her cities and towns, was certainly far in advance of Ireland in several respects in the matter of trade; yet, her agricultural, and, to a great extent, her artisan population, were as ignorant as those in Ireland. But, leaving aside for the moment the working classes of either country, in the above reigns, let us ascend a peg higher, and take an example from the merchant citizen classes, either in Dublin or Cork, in the Elizabethan era. It will be found that Dublin and Cork, and even Galway, merchants were on a par with their London and Bristol brethren; and that in the corporations of these times, an alderman in Dublin or Cork was as socially elevated, and was as comfortable, prosperous, and refined in living and manners as any London alderman of the same period.

Dineley, an Englishman, visited this country in the reign of Charles II.; and in his "Tour," written in 1681, he thus describes the diet or food of the humble Irish of that period. Many of our countrymen of a century and a-half later would be glad to have such diet as that described by Dineley; and, we might also add, some of the English peasantry of our day. Dineley writes:—

"Dyet generally of the vulgar Irish are potatoes, milk, new milk, which they call sweet milk, bonny clobber, mallabaune, whey, curds, large brown oateakes of a foot and a-half broad bak't before the fire, bread made of bare a sort of barley, pease, beans, and oat-meale, wheat or rye for great dayes. Besides potatoes roasted in the embers, they feed on parsnips, carrots, and watercresses. Butter, layed up in wicker baskettes, mixed with store of [blank in the original], a sort of garlick, and buried for some time in a bog, to make a provision of an high

tast for Lent. Neer the shoares they eat sea-weeds, as dillisk, slugane. At faïres their eating is very barbarous, each profering his friend a chop of mutton, or beef, which they call a spoule, out of y<sup>e</sup> pott, without salt [or] sauce, or salmon without vinegar. For food, among people of condicon, a sort of swine's flesh they eat, which differs from y<sup>e</sup> custome of England. It is neither sucking pig, porek, or bacon, it is called pigging rigging, a sort of pig between it and a pork; this they slit in the middle, head and all, and so roast it by y<sup>e</sup> name above. The vulgar are enclined to drink beer and usquebath in excess, & both men, weomen, and children are addicted to tobacco in an abundant manner."

For other curious documents bearing upon the Elizabethan period and later times, the volumes of the *Kilkenny Archeological Journal* from 1854 may be consulted.

In reflecting upon the social condition of the people in the past, and comparing one century with another in arts and manufactures, one cannot fail to observe that the history of both periods exhibits waves of progression and retrogression,—a going forward in one direction, or in more than one, and a falling back in other ways.

Take architecture, or house-building, for example, and it will be found that, while the art has greatly advanced by inventions and the supplying of various wants, yet that speculation and dishonesty have given birth to many abuses, which go far to neutralise the benefits that all house-owners, or rather those desirous of having a house that they can call their own, should experience. The changes of fashions and customs, and in the habits of the people, have led to several new departures in house planning and arrangement; and the necessity of supplying a number of new wants and meeting new requirements in modern houses have led to a diminution in the list of other requirements, formerly deemed indispensable, and to their abolition altogether in other instances. In house ornament and decoration, much that was to be observed in eighteenth-century and early nineteenth-century houses, has vanished, or is in process of vanishing. The mansions of our nobility in cities or country districts are, of course, in many instances, substantially built and superbly decorated, fitted up with all modern wants. But let us take the ordinary class of the residences of our gentry, or well-to-do traders, and we will find that their new suburban residences are in their interiors very bald and jejune as far as architectural features are concerned, and that they owe more in the matter of ornamentation to the upholsterer and furniture man than to the architect, builder, and workman.

Our "genteel" suburban detached and semi-detached villas are, to a large extent, not architects' houses at all—they are speculating builders' houses, in the planning and execution of which both architects and workmen are ignored, or have no voice. Though houses cannot be built without workmen, yet the craftsman is obliged to do, and continues to do, month by month and year by year, what has no other effect than that of degrading him and degrading architecture as an art. Let any practical and thoughtful mind go through an eighteenth-century town mansion in London or Dublin, and compare the character of its carpentry, joinery, mason, plaster, and smith work with that of our modern town or suburban houses of our gentry. Independent of the great elaborateness in the workmanship and decoration of the former, there was an evident and apparent substantiality, and a sharpness and clearness in finish,—a something, in fact, approaching perfection, which is altogether absent in our modern houses.

Space might, in many cases, be better utilised in some of our old houses; but there was a reality about the workmanship which showed that the houses were built by conscientious men, and were built to endure, and not drop asunder in a short time. Our cheap houses, at the present time, in many instances, are the dearest houses that could be built; and that they may be built cheaply, and sold at a profit, the majority of low speculators

build them without bodies, and, indeed, we might write, without souls also. A skeleton lurks beneath, and no matter how it may be clothed, his ghastliness will be visible to the practised eye at first sight, and a little later to the defrauded house-owner or purchaser. The "genteel and eligible residence" that once tempted the eye, like a Dead Sea fruit, will soon exhibit its inherent rottenness; and the rest may be briefly written—

"Ashes to ashes,  
And dust to dust."

In his Treatise on "Dry Rot in Timber," Mr. T. A. Britton very pertinently observes that it is still unfortunately the custom to keep up the absurd fashion of disguising woods, instead of revealing their natural beauties. He thinks that instead of wasting time in perfect imitations of scarce or dear woods, it would be much better to employ the same amount of time in fully developing the natural characteristics of many of our native woods, now destined for decorative purposes, because they are cheap and common; although many of our very commonest woods are beautifully grained, but these excellencies for ornamentation are lost because our decorators have not studied the best mode of developing their beauties. Our author asks—"Who would wish that stained deal should be painted in imitation of oak; or that the other materials of a less costly and inferior order should have been painted over instead of their natural faces being exposed to view." We echo the following:—"There are beauties in all the materials used. The inferior serve to set off by comparison the more costly, and increase their effect. The red, yellow, and white veins of the pine timber are beautiful; the shavings are like silk ribbons which only nature could vein after that fashion, and to imitate which would puzzle all the tapisseries of Rue Mouffetard, in Paris."

Walk through our leading streets any day during these summer months, and take note of the specimens of graining or veining you will be sure to observe. As workmanship goes, in some instances perhaps there will not be much to find fault with. Ask the grainer in the blandest manner possible what imitation is he engaged upon. If he fights shy of the question don't press him too much, but just interrogate him again in the pleasantest manner you can command, to inform you is the imitation that he is engaged upon *non-descript* or natural. A good grainer is likely to be a good painter, but every painter is not a grainer, though he may consider himself one.

II.

## ILLUMINATING GAS FROM WATER OR SEWAGE.

THE *Worcester Chronicle* publishes details of a process discovered by a Mr. Stephon, of that town, of converting steam into a gas which can be used for illuminating purposes. We are informed that Mr. Stephon has protected his invention by patents taken out "all over the world." By Mr. Stephon's process all sewage matter, we are told, is to be easily disposed of—gas produced free gratis for nothing, and yet an immense profit be made. Taking all the advantages promised into consideration, 150 per cent. is thought to be below the mark. We are finally informed that the inventor has made a formal application to the Birmingham Corporation Gas Committee for leave to experimentalise at a portion of the gas works there with sewage. If no unpleasant smell would attend the manufacture, and if no fuel would be required for heating the boilers and retorts, and yet an enormous quantity of gas would be produced by the consumption of the sewage, we can only say that the invention will cause a revolution, if it can be practically carried out. If Worcester can produce as much gas from its sewage as would be necessary for lighting the town and supplying the heat of the boilers, what might not London or Dublin do? The residuals (another source of profit) from the retort in the new process are soda ash, lime for build-

ing purposes (limestone being used in the manufacture), cement, &c., and from the condenser an abundant supply of ammoniacal liquor, tar, pitch, and lubricating grease. Gas manufacturers, consumers, ratepayers, and others, had better keep a close eye upon Mr. Stephon, or else he will spoil somebody's trade in more than one district.

### THE BELFAST IMPROVEMENT BILL.

On Tuesday, the 9th inst., in the House of Lords, some time was occupied over this Bill, Mr. Biggar having, on the order for the consideration of the Lords' amendments to the measure, moved that they should be read that day three months. On this being negatived, he proposed an addition to one of the clauses, to the effect that the borrowing powers for the new improvements should not come into operation till after the Corporation had carried out a main drainage scheme, already sanctioned by the Local Government Board. Mr. Corry and other members having defended the Corporation and their Bill, Mr. Biggar's second motion was defeated by 162 votes to 12. The Lords' amendments were, therefore, approved of.

### DUBLIN ARTISANS' DWELLINGS COMPANY.

At the first ordinary meeting of the Artisans' Dwellings Company, held on Saturday, a dividend at the rate of three per cent. per annum was declared. The chairman (Mr. Richard Martin, D.L.) announced that all the company's tenements were speedily let at remunerative rates; that no death had yet occurred in any of them; and that not one of their tenants was a single week in arrear. In order to meet the instalments that they should have to pay on the works not yet completed, it would be necessary to make another call. Several shareholders made suggestions as to the sanitary arrangements of the dwellings, to which the chairman replied. The report was adopted.

### THE SCIENCE AND ART MUSEUM.

#### METROPOLITAN SCHOOL OF ART.

The following honours and prizes have been awarded at the annual national and other competitions, viz.:—

*Advanced Section*.—Eleanor Kerr, full award.

*National Competition*.—Dora Bradley, gold medal for study from the draped human figure; Isabella C. Bergin, book prize for surface design; Annie Johnston, bronze medal for surface design; Eleanor Kerr, silver medal for surface design.

*Prizes of the Third Grade*.—J. Lambert, E. H. Jones, Annie Johnston, Eleanor Kerr, F. L. Jordan, P. K. Symes, Ann Mitchell, H. Bayley, S. A. Armstrong, M. Barry, John G. Greer, Nathaniel Hill, Peter O'Brien, James E. Piu, Hilda Douglas, F. Conan, Jane F. Walsb, John Smyth, and M. A. O'Reilly.

### THE BIRTH-PLACE OF MICHAEL BALFE.

Mr. William Logan, "an admirable performer on the contra-basso," writes as follows to Mr. M. Gunn, lessee of the Theatre Royal, respecting the placing of a medallion or tablet in front of the house in which Balfe was born:—

"Sir,—In the Dublin papers of 8th inst., there is an account of the unveiling of the bust of Balfe in the National Gallery.\* I see that your name is associated with this testimonial to the memory of our great countryman. I therefore beg to bring under your notice the fact that I am the owner of the house, 10 Pitt-street, in which Balfe was born. I take a pride in living in that house. Sir Robert Stewart stated, in one of his public lectures on Balfe, that 10 Pitt-street was the house of Balfe's birth. May I take the liberty of asking you to make public the fact that "Balfe's House" is in possession of a Dublin musician, one of your orchestra, who will place a medallion of Balfe on the front of the house, at his own expense."

\* See our notice on page 210.

### THE SUCK DRAINAGE WORKS.

OPERATIONS have already commenced under the Suck Drainage Bill, although it only received the Royal assent last month. The Drainage Board have met, elected a secretary, and Mr. J. Lynam, C.E., as engineer; and advertisements have been issued, calling for tenders to carry out the works, which present very trifling difficulties. The cost is expected to reach £130,000. The annual flooding of many thousand acres we hope soon to see at an end, by the removal of numbers of eel weirs and ancient mill-dams, and other obstructions. We would wish to see other landed proprietors in Ireland following the example now set them by the energy, in this particular direction, of the O'Connor Don, Mr. Willis Sandford, General Mitchell, and other improving landlords in the province of Connaught.

### TRADES UNIONISM IN LIMERICK.

A correspondent sends us the following report of what took place at the Petty Sessions, Limerick, on Friday last. Five masons were summoned by Mr. Kenna, the contractor for works at the Lunatic Asylum, for leaving his employment without first having given due notice. Complainant deposed that the defendants were engaged by the week, and had left in the middle of it, thereby causing him loss. The principle involved was his chief object in bringing the case forward.

Mr. R. MacNamara (who appeared for the defendants) said the men are society men, and it is one of their rules not to work with non-society men.

Mr. Kenna—I never discharged a man in the middle of the week. I asked the men to go to work for me at Matterson's, and they would not go, because a non-society man was working there.

Patrick McNamara (one of the defendants) deposed that Mr. Kenna often discharged men in the middle of the week, and frequently without giving a minute's notice. We were paid by the day's work, and could leave when we liked.

Mr. Ryan—Why did you leave Mr. Kenna's employment?

McNamara—Because we were asked to go to work at Matterson's, where a returned convict was employed!

Mr. Ryan—But who employed him—was it Mr. Kenna?

McNamara—No; it was Mr. Matterson who employed him.

Another witness, John McNamara, said he was twice discharged from Mr. Kenna's employment in the middle of the day, and in the middle of the week. On cross-examination he admitted that it was for being drunk and not doing enough of work. When other men were discharged in the middle of the week, it was always for being drunk.

John Doherty, a working mason, examined for the defence, said he was working for forty-seven years in the city, and found it always a custom that if a man was discharged in the middle of the week without a cause, he was entitled to the full week's wages.

Mr. Ryan—Exactly.

Mr. Connolly—The amount of desperation carried out by these trade unionists is perfectly mysterious.

The magistrates retired to consider their decision, and the Mayor announced that they had unanimously decided to fine each man £2, to be forfeited as damages to Mr. Kenna, also each man to forfeit that part of his week's wages for which he worked (five days), together with paying costs of court.

### ANENT A NATIONAL SCHOOL-HOUSE

In our last issue we printed an extract from Dr. Moutray's report as to the sanitary surroundings of Ballyroan School-house, County Kildare. Underneath we give what took place at Tuesday's meeting of the Guardians, as reported in the *Leinster Express*:—

The following letter was read from the District Inspector of National Schools:—

I beg to acknowledge receipt of your letter of 3rd inst., as to the bad sanitary condition of the Ballyroan national school, and to inform you in reply that I have forwarded your letter to the Education Office for advice as to the course to be taken in the case.

The Rev. T. Nolan said it was well known to Lord de Vesci and the gentlemen present, that he had always taken a deep interest in the moral training of the people, as well as in their physical comfort. He denied that the school was under the same roof as a cow-house, or pig-house, or a house used for the feeding of pigs; it was originally a barn, and was well roofed and lighted, and ventilated, and clean, as all barns were. With regard to the latrine, it was fifty or sixty feet from the school, and thirty feet, more or less, from the river, and as a hard impenetrable road intervened there could be no pollution to the water. Having explained at some length the precautions which he took to cut off the possibility of the slightest communication between the latrine and the school, he concluded by referring to the destitute state of Ballyroan for a public pump, and urging the erection of one.

Mr. Corcoran—Some children from my district go to Ballyroan school, and, hearing of this matter, I went and inspected it. I can bear out every word Father Nolan says. I think a more unfair attack was never made on anyone. The latrine is twenty-seven feet from the river. I measured it myself.

The Chairman explained to Father Nolan that in what had been done no offence or stigma was sought to be attached to him; but wherever a nuisance was reported, the custom of the board was to serve notice on the responsible parties. He (chairman) thought the case was one where the consulting sanitary officer might be called in with advantage.

Mr. Corcoran and other guardians concurred.

Chairman—Of course Dr. Moutray merely went there, and formed his own opinion of what he saw.

Mr. Corcoran—I saw the place too, and I am just as competent to form an opinion as Dr. Moutray.

Father Nolan said he had no objection to Dr. Swan being called in. He was an honest man, and would, he was sure, do what was just and fair. But there were some young people running rather fast just now, who passed opinions without sufficient data for them.

After further discussion, Dr. Swan was requested, in his capacity of consulting sanitary officer, to inspect the school, &c., and report by next board day.

### BOOKS RECEIVED.

*Observations upon the Working of "The Regulation of Railways Act, 1873," and of the Court of the Railway Commissioners.* Manchester: Chas. Sever.

THE above is the title of a pamphlet from the pen of a writer who, for reasons known best to himself, does not give his name to the world. There is no doubt but that the author has all through his *brochure* solely the Railway interest at heart. He aims at proving that the Railway Commissioners who were appointed in 1873, have entirely failed in effecting the purposes for which they were appointed; and, should he successfully prove his statements, the Government would do well to pause before an extension or renewal of the powers vested in the Court of Railway Commissioners be granted. "Of the two classes of case, he says (p. 5), for which the Court was chiefly created, there have been heard on the average seven in each year, or adding the arbitrations and the contested working agreements—taking, in fact, the contested matters of every kind—the average has been less than eighteen, at a yearly cost in salaries of nearly £10,000." The author passes under review the four reports already presented to Parliament by the Commissioners, and the suggestions contained therein—"suggestions for unexampled powers based on the assumption that absence of complaint is a proof of breach of duty." The pamphlet is a well-timed one, and deserves an attentive perusal by railway proprietors.

TRADES UNIONS CONGRESS.—This year's congress will be held in Bristol, on Monday, September 9th, and the five following days. The Parliamentary Committee state that "The report of the year's work will be one of great importance. This, combined with the almost unprecedented position of our industries, and the exciting events of the past twelve months in labour disputes, should be of sufficient importance to make the coming congress the largest ever held."

NOTES ON THE EARLY HISTORY OF  
THE IRISH STAGE.\*

DURING the season of 1774, John O'Keefe, afterwards so well known for his dramatic pieces, and his "Recollections," personal and public, brought out his Tony Lumpkin for his benefit. This farce was produced several years subsequently at the Haymarket, London, under Colman. Though this farce was far from being the best of O'Keefe's pieces, yet, in the opinion of Hitchcock, "it prepared the town for that species of dramatic writing which, till then, they had been unacquainted with." We have already given some brief notes of the life, and an estimate of the abilities of O'Keefe, — a native writer, Irish in name and descent, and yet acknowledged to be "the most brilliant of English dramatists." While in London, in the earlier part of his dramatic career, O'Keefe appears to have met with an earnest and encouraging friend and assistant in the person of the elder Colman. "I think I can venture to affirm," writes Hitchcock, "that the great judgement of the excellent manager [Colman], — (one of the best that the stage could ever boast of) — in advising, correcting, and preparing Mr. O'Keefe's first productions, and in afterwards exhibiting in such a state of perfection, we are indebted for a succession of many of the pleasantest pieces that enrich the drama." Yet, strange to relate, the once most popular farces of O'Keefe, together with the dramas of Foote, are now obsolete, for what reason we are not left in doubt, if the opinion of a recent writer be accepted as fair explanation: — "Because the popular taste has become so refined that it shrinks from broadness of humour and sharpness of wit into the safe refuge afforded by prancing horses, flying houses, masked assassins, and simmering Jewesses."

The drama of "Cymon," always popular, was brought out at Smock-alley with increased strength, — Arne (Michael), the composer of the music, being in Dublin at the time, and the production of the piece under his direction. He restored most of the original music, and several of the songs received a new setting. The cast was as follows: — Ryder, Cymon; Wilder, Linco; Mahon, Merlin; Vandermere, Justice Dorus; Mrs. Piuto, Urganda; Mrs. Sparks, Fatima; and Mrs. Arne (formerly Miss Wright) made her first appearance in this country, as Sylvia. This piece, so well supported, brought several good houses. About this time, at Smock-alley, we find a theatrical candidate in the person of Waddy distinguishing himself, and obtaining particular notice. Waddy continued on, and throughout the whole of the ensuing season, and subsequently became a prominent figure at Fishamble-street theatre. His first character at Smock-alley was Philotas, in the "Grecian Daughter;" and, gaining applause in this, he essayed Dumont in "Jane Shore," the Duke in "Measure for Measure," Cassius in "Julius Caesar," and some others. Success continuing to crown Ryder's efforts, and public patronage being liberally bestowed on him, he projected for his patrons a new entertainment, in the form of a masqued ball, or ridotto. The theatre at Crow-street had been closed during the winter, though there were many who solicited that it should be opened; but as soon as Ryder had determined on producing his new entertainment, he made preparations for opening the house for its presentation. Crow-street was, therefore, put in a state of repair, and painted and decorated for the occasion. Before the new entertainment was produced, considerable delays occurred, and several alterations took place. The first announcement was in the form of a fancy ball, the plan proposed being by subscription, sixty subscribers at ten guineas each, each subscriber to have eight tickets, for the admission of either ladies or gentlemen. This plan was soon set aside, most likely from want of success in the subscriptions. Another delay occurred, and next the entertainment was announced under the

name of a ridotto ball, with tickets a guinea each. The new entertainment was announced as under the sanction of the Lord Lieutenant, and Ryder obtained the support of the Duke of Leinster, the Countess of Shannon, Lady Newnham, and several others of the nobility. It is worthy of note that at this ridotto ball it was agreed that every person who came was to be dressed in Irish manufacture; — so the entertainment proved an exhibition of pleasure and a source of utility. The project turned out highly successful, and, happening in the genial month of May, the crowd of fashion was so great that Ryder, it was reported, cleared upwards of a thousand pounds by his lucky entertainment.

About this period, the once-celebrated Astley and his family visited Dublin, and appeared in various exhibitions. On this occasion Mrs. Astley proposed to entertain the public by exhibiting a swarm of bees upon her arm, so closely packed as to form a striking resemblance to a lady's muff. Astley himself, always alive to the wonderful, had, besides his other exhibitions, a museum of curiosities open; and, both combined, were so attractive that it forced the managers of the Dublin theatres to counteract their performances by producing entertainments quite as wonderful. The regular theatres were once more in a manner degraded, perhaps from force of circumstances, and obliged to keep open by renouncing the legitimate drama for an interval, to compete with equestrian pantomimists. "A great little phenomenon" was now brought out on the stage, called the "Corsican Fairy;" the tragedy of "Henry the Eighth" was got up, and in the "Coronation of Anne Boleyn" the part of the Champion was announced to be performed by "Maria Theresa, the amazing Corsican Fairy, who will make her public entry riding on the learned horse; after which she will descend, and move a minuet, and dance a new Corsican jig upon a table. This wonderful phenomenon is but 34 in. high, weighs but 26 pounds, and is allowed by all who have seen her a perfect beauty. She speaks Italian and French with the greatest vivacity and elegance." On this exhibition, Hitchcock observes: — "However the lover of *curious sights* might have been gratified by the appearance of this little lady, it must be confessed the admirers of Shakespeare could have no great reason to rejoice at her introduction into one of his most celebrated tragedies. . . . Such are the wretched resources to which a manager is frequently driven, not from choice but from necessity, in order to counteract the rage of some similar attraction, and to preserve public attention."

In the history of the English as well as of the Irish stage, managers have willingly and unwillingly more than once presented tumblers and rope-dancers, and the circus has been opposed on its own ground by theatrical managers, for personal and financial ends, and also in accordance with the law which argues that "Self-preservation is the first law of nature."

Philip Astley and his wife, on account of their frequent visits to Dublin, and their sojourn here at different periods, are entitled to some brief notices. Our countryman, John Wilson Croker, thus speaks of Astley: — "A celebrated horse-rider, who first exhibited equestrian pantomimes, in which his son (who survived his father but a short time), rode with great grace and agility. Astley had once theatres in Paris, London, and Dublin, and migrated with his actors, biped and quadruped, from one to another. Both father and son were remarkably handsome, the elder of large proportions, but perfect symmetry." In the "Records of a Veteran," and in Wewitzer's "Dramatic Remains," Astley's mode of pronunciation, and misapplication of words, are amusingly described. In the first-named work it is related that "Poor Astley used to talk of a 'krocodile' wot stopped Alexander's harny, and when cut hopen had a man in harmour in his hinctlets." Ho (Astley) had two or three hard words, that he invariably misapplied — 'pestiferous' he always substituted for

'pusillanimous;' and he was wont to observe that he should be a ruined man, for his horses ate most 'vociferously.'" Wewitzer says that 'old Astley, when he first returned from France, was accosted by a friend, who asked him if he had seen the French Prince of Wales when he was in Paris. 'Go,' says he, 'you ignoramus, there is no Prince of Wales in France, — he is the Dolphin [Dauphin]. Why, I mought have learn him to ride if I would.' 'Is the young prince like his father?' 'His father! Lord bless your silly head! His father could never get that there child; his father's omnipotent.'" Mrs. Astley, who was a minor actress of much merit, is thus described in the "Records of a Veteran": — "She had such luxuriant hair that she could stand upright, and it covered her to her feet, like a veil. She was very proud of these flaxen locks; and a slight accident by fire having befallen them, she resolved ever after to play in a wig. She used, therefore, to wind this immense quantity of hair around her head, and put over it a capacious caxon, the consequence of which was that her head bore about the same proportion to the rest of her figure that a whale's skull does to its body; and as she played most of the heroines, the reader may judge of the effect."

An erroneous belief existed in the minds of some of our citizens that the spot of ground, oval in shape, which may be found figured on the maps of Dublin towards the end of the last century, and for many years in the present century, marked "Royal Circus," situated at the head of Eccles-street, was the site of Astley's circus. The oval piece of ground was laid out by the Lord Mountjoy of the period, and was intended to be surrounded by first-class mansions, to form a northern rival to the southern Merion-square. The project fell through from various causes, after the foundation walls of the enclosing boundary were built. That some equestrian exhibitions may have taken place on the waste land intended for the "Royal Circus," is quite possible; and perhaps some octogenarian citizen may be able to say. The fact is, however, clear, that the "Royal Circus" was not the site of Astley's or any other circus building; though in our schoolboy days the belief of a circus having been situated there, was current. One of the places used by Astley for some time in Dublin, was the building in Peter-street, now and for many years known as the Molyneux Asylum. After the family mansion of the Molyneux's was disposed of by the removal of the head to a more fashionable part of the city, the house fell into other hands, and afterwards into those of Astley, by whom it was converted into a circus. What was formerly the circus portion in the mansion in Peter-street was subsequently turned into the chapel of the Asylum. The elder Astley was born in 1742, and died in 1814; but though the son survived the father only a short time, the equestrian exhibitions were, we believe, like similar ones, carried on for a period longer, under the name of Astley, in Great Britain and Ireland.

THE MODEL SANITARY INSPECTOR  
DEPICTED.

THE following portion of a lecture on "Sanitary Reform," by a Scotch gentleman named Kenneth M. Macleod, is worthy of perusal by those in whose hands lies the very important duty of the appointment of officers under the Public Health Act: —

"As the Sanitary Inspector is an official of recent growth, I shall, before giving an account of his special work, give you a description of the qualifications he should possess to fit him for his important but dangerous work. He should be the owner of a good sound constitution; he should have sufficient sense and self-denial to follow the rules laid down by competent authority to preserve it so, including temperance and strict regularity, to repel, as far as possible,

\* See ante.

an attack on himself of the infectious diseases he is daily coming in contact with. He should have a pleasing address, and be as much as possible calm and collected. He must be conversant with the proper principles of house construction, ventilation, and drainage, with the best modes of carrying out the same according to the circumstances of individual places. He should have a knowledge of all kinds of traps, water-closets, and all their fixings; be able at a glance to detect a structural defect preventing the admission of light or ventilation, and in an intelligible form point out a remedy; and, if need be, draw a neat little pencil sketch of the defect for consideration of the owner or occupant who is to be asked to make the alteration. He must have an observant eye, a quick ear, and a sensitive nose. In meeting with owners and occupants he should be more forward to hear than to speak. In no public duty more than his is Carlyle's favourite maxim more applicable that "silence is golden." When speech is necessary he should confine himself to the matter in hand, explaining only what needs to be explained, and persuading where persuasion is likely to be of use; to see, to hear, to smell, to note and to report—that sums up his work as an Inspector. In doing this work he will have to restrain his temper, practise patience, and learn to endure hard speeches without answering back. He must, by observation, educate himself to detect at a glance the kind of infectious disease with which any patient he may discover, or be sent to, is affected; and, in such cases, be ever ready with a kind word to cheer up patients and their desponding friends. He should bear himself with a sympathetic aspect to the many bereaved ones,—widows, mothers, and orphan children,—he will so frequently meet with in the performance of his duties; kindness must characterise his every movement on epidemic duty, and rude behaviour or supercilious officialism should find no place in his conduct. He should acquire a knowledge of the different kinds of disinfectants, and know those best fitted for safely and effectually disinfecting fever localities, and the changes scientific authorities assert they effect on the atmosphere or article operated upon, and be able to explain the same if asked by any doubting delinquent who refuses to apply them. It is hardly needful to add that, in addition to all these qualifications, he must be of a courageous spirit, have no fear of infection, and be ever ready to join an attack on infected strongholds."

#### MYCENÆ, TROY, AND EPHEBUS.\*

(Continued from page 194.)

I MUST ask you now to leave the Peloponnesus and go to the Troad with me, where, I regret to say, you will find everything in a much more theoretic and uncertain condition than is the case with the remains at Mycenæ. The site of Troy has been a subject of dispute even from the earliest times, and I cannot say that we are now any nearer to a settlement of any of the questions connected with it. Strabo gives a long account of the Troad, and deals with the authors who had written before his time regarding the site of Ilium. There was a place which bore this name in his day, but he states it as his opinion that it was not on the same ground as the city of Priam. He says, "That the port of the Achæans," that is, he means the ground on the Hellespont where the Greeks had their ships and their camp, was "distant from the present Ilium about 12 stadia, and 30 stadia more from the ancient Ilium, which is higher up in the part towards Ida." (B. xiii. c. i. §2.) I would say that Hissarlik was the probable Ilium of Strabo's time, and that he supposed the more ancient city to have been near, or at least in the direction of Bounarbashi. Le Chevalier visited the Troad in 1786, and ever since his time there has been a more modern contest regarding the site of Troy. Le

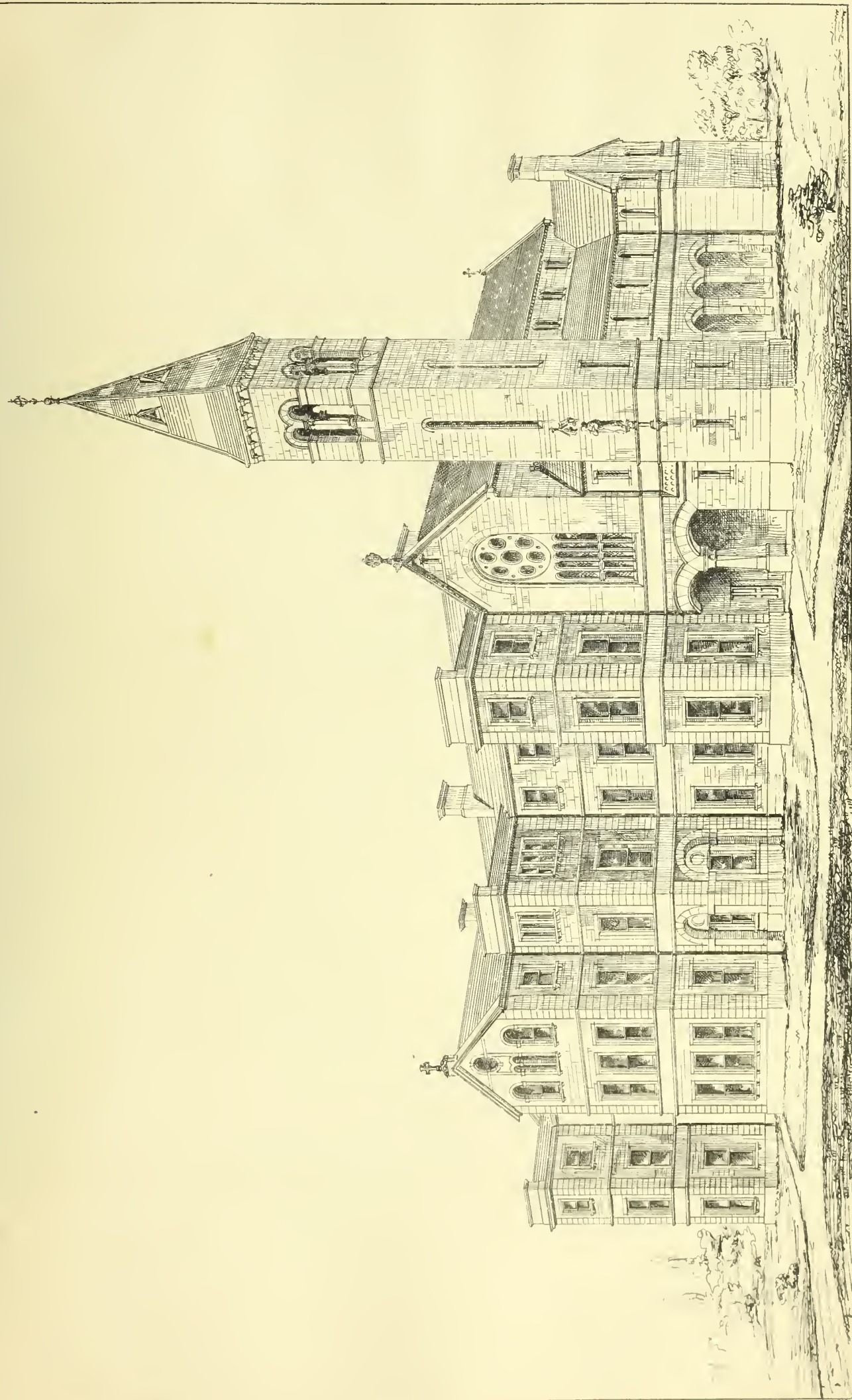
Chevalier urged the Bounarbashi claims. Since his time MacLaren and Eckenbrecher have declared for the position at Hissarlik; and lastly, Dr. Schliemann applied the test of the spade to this ground, and as a result, he proclaimed to the world that he had there discovered the Ilium of Homer. This would be a most important discovery, not merely from its archaeological aspects, but from its bearing on so many questions connected with classic literature. On this account we should be quite sure that the grounds for such a conclusion have had due consideration. We ought to be certain that such an announcement is not a hasty judgment, arrived at because desired; on the contrary, before accepting the statement we should be certain that every point had been weighed with calmness, and by a mind experienced in such matters, and that no part of the case had been assumed without the utmost care and reflexion. Hissarlik is a mound at the end of a long ridge which projects into the Trojan plain. Before the excavations, a person might have passed the place without perceiving any signs of a town having ever existed on it. Its name, which is Turkish, means "Place of a Fort," and is pretty good evidence that up to a late period it must have retained some visible marks of its original character. This mound is higher than the rest of the ridge to which it belongs, but much of it is accumulated soil. A closer inspection of the ground to the east and the south soon reveals lines on the ground which must have either been walls or streets. Dr. Schliemann gives a plan of this ground, which represents the walls as enclosing a space of over two miles in circumference, and Hissarlik, which is only about a furlong in its longest direction, seems to stand out as the fortress or citadel of this town, which from its size must have been an important place at some former period. It was on this old citadel that Dr. Schliemann made his grand attack with the spade, and for three years he persisted in carrying on this modern siege of Troy. Although I cannot agree to the conclusions which the Doctor has come to, yet I can speak of the energy which must have been expended, and of the wonderful extent of the work accomplished. One of the trenches extends east and west over a space of about 600 ft., another from north to south is about 500 ft. long. In some places these valleys, for so I might term them, are 50 ft. deep. It would be rather difficult to describe to you minutely all that was laid bare by these extensive diggings. I think that an inspection of the drawings which are here exhibited will give you a better idea than can be conveyed in words. You will see that the sections made by the cuttings reveal old walls and masses of stones which seem as if they had been thrown in with the soil. You will also notice that the best masonry is close to the present surface of the ground. Lower down, there are houses whose walls are of the rudest construction. There is a long paved ascent, and down almost at the lowest point there are the remains of an old gateway, which Dr. Schliemann has declared to be the "Sceen Gate."

It may, perhaps, be best for me to give you the ideas which resulted in my own mind, and to relate them to you, by detailing my thoughts as they grew out of the visit and the study of the details. Well, the first impression of doubt was produced from the total absence of any Cyclopean masonry, as revealed by the excavations. Dr. Schliemann himself says that, "The great tower of Ilium the Sceen Gate, and the great enclosing wall, are generally composed of unhewn stones joined with earth." ("Troy and its Remains," p. 26.) These are his own words, and such building does not belong to what we call Cyclopean. In fact, the Doctor, at the time he was carrying on the works at that place, emphatically denied the possible existence of such walls. One of his critics, Mr. Calvert, a gentleman who has long studied the archaeology of the Troad, had expressed his opinion that Cyclopean masonry did exist in the depths of Hissarlik; and it is a curious

peep into the condition of Dr. Schliemann's mind at that time, to find him saying, in reply to Mr. Calvert, that "the architect is not yet born who could construct house-walls of such stones without some kind of cement." ("Troy and its Remains," p. 273). That is a very remarkable statement for an archaeologist to make. I confess that I am inclined to agree that Mr. Calvert, the Cyclopean masonry will yet be found; but at present we have only to deal with what has been discovered. The Doctor may not be quite correct in stating that the architect is yet unborn who could build a Cyclopean wall, but he is accurate enough in his description of the walls, so far as they have yet been brought to view. Before deciding that these walls at Hissarlik belonged to the Homeric Ilium, we ought to have some evidence as to their probable date;—unfortunately, this is a matter which the Doctor does not trouble himself with. A wall constructed of unhewn stones joined with earth, presents us with almost no clue as to the time of its erection. It might have been made at any date. Such a wall might be of the Heroic Age, or it might belong to any period down to the present moment. It is entirely destitute of any architectural art; it has no mouldings, no ornament, and no inscriptions. Such being the case, no data can be derived from it as to the period of its construction. My own conclusion was that the walls of the City of Priam were most probably of Cyclopean masonry. Troy was contemporaneous with Mycenæ and Tiryns, and it would be reasonable to expect some resemblance in the architecture of these places. Homer applies similar terms to both Mycenæ and Troy, such as "well-built" and "wide-wayed." These may have been but stereotyped words in the mouths of the Rhapsodists, but I have already pointed out, as the probable deduction from the myths regarding the Cyclopes, that the style of building known under their name came from the western shores of Asia Minor. If such were the case, we may be sure that that description of building was practised in the region they migrated from, and the walls of cities belonging to their date—whenever that may have been—were much more substantial than what we have as yet seen at Hissarlik. I am supported in this conclusion by the fact that there are remains of Cyclopean masonry in the Troad. There are sketches of the walls of Gergis before you to-night, where such construction can be seen. I am also informed that there are old Cyclopean walls yet existing at Alexandria Troas, which is only a few miles distant from the Troad. Dr. Clarke describes Cyclopean buildings on the sides of Mount Ida, which, he says, "are as rude as those of the walls of Tirynthus in Argolis" (Clarke's Travels, vol. iii., p. 166). On the top of Samothrace, which is so close to Troy that Poseidon from it watched the City of Priam, admiring the war and the battle, there still exist walls of the most primitive Cyclopean structure. I do not see how we can avoid the conclusion that so great a monarch as the King of Troy is described must have had the walls of his capital built in the strongest manner which was possible at the time. We should also remember that, according to Homer, it was Poseidon who built the walls of Troy, and we are told that he did so "that the city might be impregnable," (Iliad xxi., v. 447), thus implying defensive works of the most formidable kind. This myth in itself would suggest that the walls were something unusual; such paltry masonry as we see now in the trenches at Hissarlik never could have been the foundation for such a tale. It may be added that Mr. Gladstone has deduced from this story of Poseidon that the walls of Troy were of a Cyclopean character—"Homeric Synchronism," p. 42. The deduction from all these considerations seems to me to be clear and simple. Hissarlik may be the site of the Homeric Ilium, but the remains of it either do not now exist, which is most probable, or as yet they have not been laid open to our view.

(To be continued.)

\* By Mr. William Simpson, F.R.G.S. Read at the Society of Arts, May 29th.



Sketch of proposed addition to St. Vincent de Paul's Male Orphanage,  
Glasnevin, County Dublin.

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ST. VINCENT DE PAUL ORPHANAGE,  
GLASNEVIN.

THE illustration with present issue shews the addition to the Orphanage which (with the chapel) is now in course of erection. The original structure was designed by Mr. J. Butler. The new wing comprises refectory, waiting-rooms, cells for the Christian Brothers (who have charge of the institution, under the direction of a committee appointed by the St. Vincent de Paul Society), and a spacious dormitory.

The chapel is level with the first floor, and a large covered play-ground is provided underneath.

The architect for the addition is Mr. J. L. Robinson, and the contractors Messrs. Meade and Son.

## MURAL PAINTING.

WE printed in our issue of 1st inst. the paper on above subject read by Mr. E. Armitage at Fifth Conference of Architects, and now give a short report of the discussion which followed:—

Mr. A. Waterhouse said the subject was one of great interest to him, for it was intended to be tried what could be done in the way of mural painting in the Town Hall, Manchester. He believed one of the great mistakes he committed was in making the panels of the walls too long in proportion to their height; and all painters who had looked at them had said they would be very expensive panels to paint. At the time when the Corporation considered the question of these paintings they requested him to go about and see what he could find, and he went over to the Low Countries, and had seen the works of which Mr. Armitage had spoken, and was very much delighted with them. There was, however, an almost insuperable difficulty in persuading the artists to touch the water-glass painting. It had been tried, as they knew, on a gigantic scale in the Houses of Parliament, but the pictures had given such unmitigated trouble to those who painted them, as well as to those who afterwards repaired them, that he could quite understand the feeling of painters with regard to that process. He also confessed to another mistake, judging from what had fallen from Mr. Armitage. At the instance of an artist who had given some attention to the subject, he was induced to prepare the panels with some of the lime stuff that came from Munich, although he did not know it at the time. That was mixed with marble, and he was bound to say it made the hardest plaster he ever touched, and it took a very hard grip of the wall. The wall itself was hollow,  $4\frac{1}{2}$  in. thick, and there was a space between that and the main wall for the passage of the warm air to heat the room; so that he was relieved of all anxiety with respect to dampness of the wall for the pictures. There were twelve pictures to be painted, of historic subjects, and the cost was estimated at about £30 per square yard.

Mr. Armitage said he omitted to mention that the Belgian pictures were painted on the wall itself, prepared in the usual way—first, a rough coat of mortar, and then a finer coat of the same material; and when thoroughly dry, the colours were placed upon it. He had not been able to ascertain the cost of these pictures.

Mr. Phipps mentioned that he paid Mr. Marks and Mr. Albert Moore £200 each for painting two friezes about 30 ft. long and 6 ft. high, which worked out to about £10 per square yard in the case of Mr. Marks, and £15 in the case of Mr. Albert Moore. In each frieze the number of figures did not exceed twelve.

Mr. Clarke also mentioned that in St. Alban's Church, Rochdale, there were a very few specimens of chancel painting by Mr. Albert Moore, which he believed were as perfect now, with the exception of dust, as

when finished. The wall was of ordinary plaster, not lined with brick. The old plaster was taken down, and a new coating put on by a local workman in a very rough way, but the pictures remained almost as perfect as when they were done. He was informed that the cost of painting the chancel was £700.

Mr. Street said Mr. Armitage had preferred an indictment against the architects of the present day to which he felt compelled to reply. He would, in the first place, correct his friend out of his own mouth. He had told them that the frescoes in the Houses of Parliament were unsatisfactory in their mode of treatment with regard to the architecture, and in final effect. He (Mr. Street) could conceive no reason why perfect effects could not be practised in frescoes, particularly when distinguished men were employed to paint them, but they had transferred to the walls of a building work which they were in the habit of doing upon canvas. All architects who had tried to employ the most distinguished painters would find their experience very much the same. He was bound to say painters generally were strongly disposed to carry out that which pleased them best, and would seldom work with the architect so as to make their paintings harmonise with the architecture by the study of those examples of early Italian art, in which wall-painting might be said to be carried to perfection, and the architect who tried to introduce this form of decoration began almost to despair. In addition to the difficulties Mr. Armitage had mentioned, there was one he had not alluded to, which was, perhaps, the greatest of all. A great deal of his (Mr. Street's) work had been in out-of-the-way country places. It was almost impossible to get a painter to leave the charms of his studio life in London to devote himself for any length of time to work in a country town or village, and consequently they were obliged to go to inferior men, but not so inferior as Mr. Armitage said. He must, however, traverse what that gentleman had said with regard to the combination of stained glass and mural painting. He could not understand how any critical objection could be made to such a combination. There were examples of mural painting abroad of supreme interest, which are lighted through the most brilliant stained glass; and the reason why no bad effect was produced was because the colours introduced into the pictures were extremely simple. He suggested that Mr. Armitage should consider how far it was possible, where they had to get young men to help them, to adopt such a process as would be capable of repetition by other hands in out-of-the-way places. That was one of the real difficulties, and the reason why the more elaborate works executed in cities and large towns could not be repeated in places less important. That, however, was done to a very large extent at a period with which his friend did not sympathise so much as he did—viz., the Middle Ages. They had an illustration in the Norwich school of painters, of work done at head quarters being transferred to various places in the diocese—sent from Norwich even into country villages; and that was very much the case in Italy at a later period than the Middle Ages, when painting was introduced on the walls of almost every church; and whereas in England the only great centre of painting was London, in Italy, within an area no larger than one of our counties, there were numbers of centres and groups of painters, and it was possible to get work done in country districts which they could not get done here. As to the cost of this work, he was amazed to hear the statements that had been made as to the cost in one or two cases. The work must virtually have been done gratuitously when they heard of such a price as £2 per square foot, that being hardly equal to the price paid for stained glass. If one could get work done at that price, we should have all our walls painted in no time. As to architects preparing spaces for paintings, he knew a great many cases in which

that had been done. He was very glad they were reserving such spaces at the present day, but it was unreasonable to say that as soon as spaces were prepared they must engage the first painter they came across to paint the pictures. They required a school of painters who devoted themselves to the subject, and it laid with painters to prove how walls should be decorated in harmony with the architecture, rather than to say it was the architect's business to make his walls suit any kind of paintings they might adopt; at the same time he could not see what the question of Gothic tracery in some parts of a building had to do with the decorative painting of the walls. One way of meeting the present difficulty with regard to remote districts was that which he had observed, in several instances, namely, to introduce a character of painting which could be done in the artist's studio, and transferred to the country and attached to the walls. He had a good many of these done at various times, some of them of considerable interest and value. A great deal had been done to introduce pictorial decoration in mosaic. Going from the remote mosaics of Ravenna and Rome to those of later date, one was struck with the superiority of the former. It was necessary that the architect should try to keep the artist from revelling too much in the modern style of painting, and to confine him as much as possible to chiaroscuro. He gathered from the remarks of Mr. Clarke that the true mode of painting on walls was in distemper, whilst most of the wall pictures in England were in tempera, and distemper painting was so good that without ultimate setting with water-glass, external walls could be decorated in that way, and therefore it could not be a bad material, but set with water-glass for internal decoration of walls it was less fugitive than fresco. The frescoes at Westminster appeared to be going into the inner spaces of the walls. His experience with regard to frescoes in this country was that they were most unsatisfactory. He hardly knew any one fresco which was satisfactory, and some he was acquainted with had been touched up in distemper. Three or four years ago he was much struck with the effect of the painting of some of the great houses in Augsburg. The effect was most brilliant, and he wished some of our painters could get a chance of decorating our London houses with some colour that would wash.

Mr. Armitage said instances had been given of paintings having been executed for £10 and £15 per square yard. That was very possible if the background was large in proportion to the figures. If he covered the space behind the President's chair, and called the whole of that space the painting, he might do it cheaply enough, but if he were required to paint the elaborately-carved chair on which the President sat, it might cost £40 or £50. In calculating the expense he allowed for the margin of background, which reduced the price to an extreme minimum. He attributed the present condition of the water-glass paintings at Westminster to the improper way in which they were painted, particularly the employment of silica as a medium. The water-glass paintings at Berlin, executed twenty-five years ago, were still in good condition, and there was no appearance of gloom upon them. He was glad to hear so good an account of tempera, which was a delightful material to work. With regard to the relation between architect and painter, he had spoken throughout of pictorial embellishment as ancillary and auxiliary to architecture, and it stood to reason that an architect, with thorough predilections for a certain style of art, would go to a professor of that style of art. He would hardly employ a painter whose feelings were at variance with his own, and both should pull together in the same direction. The painter ought to take as great interest in the decoration of the room, and the setting of the picture, as the architect did in the architecture, and the latter ought to take as much interest in the painter's work as if it were a part of his own.

The President, in proposing a vote of thanks to Mr. Armitage for his paper, remarked that, as far as he remembered, it was unique in its character as having been read in that room. It was the first example he could call to mind where architect and artist had striven to assign to each other his proper function in work on which they were both employed, and that was the fruit of the new order of honorary associates represented on this occasion by a member of the Royal Academy; it must be regarded as good fruit, and served to illustrate the extreme usefulness of the new class which had been instituted. With regard to the cost of these works, they could only arrive at the vaguest possible idea. It was sufficient to know that works of art of a decorative kind, not despicable in themselves, could be produced at the moderate cost mentioned by Mr. Armitage. He (the President's) own view of the matter was that the painter should have a voice, as well as the architect, in the entire composition; so that the architect who did the work of construction, should from the first have a knowledge of the character of the paintings with which it would be decorated afterwards, and in that way only was the *entente cordiale* which they desired to see likely to ensue. With respect to the different characters of work, they knew that the battle of styles was on old battle, and would probably be fought more or less to the end of time, but they had come to remember that art had many sides, and that architecture also had many sides. Yet it was possible for all to live in harmony and practice—some in one school and some in another—without flying at each other's throats, thinking everybody wrong but themselves. There was, happily, no difference between architects and artists in the opinion that mural painting should be more largely employed for decorative purposes in this country than it was at the present time, and in the desire to realize that he was sure all whom he addressed joined. He hoped Mr. Armitage would not stand alone in this matter, but that he would have many followers in the same direction.

#### THE IRISH BOARD OF WORKS.

A BLUE BOOK has, within the last few days, been issued, giving the results of the inquiry held by the Select Committee of the House of Commons, respecting the administration of the Irish Board of Works. We must postpone, for the present, any detailed notice of the materials of this report, and of the sustained indictment preferred in it against some of the officers of the Board. Suffice it to say, on this occasion, the charges of defective administration in some of the departments of the Board are proven. The Chairman of the Board is, unfortunately, placed by the inquiry in a rather unenviable position, in respect to the manner in which he dealt with the Report of Lord Lansdowne's Committee. It is stated that the instructions of the Lords Commissioners of the Treasury, respecting this Report, were communicated to the Board by a formal minute; but that, notwithstanding, the Chairman of the Irish Board retained the Report in his own custody, treating the recommendations with indifference. It is alleged, again, that the Labouring Classes, Lodging Houses, and Dwellings' Acts (Ireland), were frustrated in their intended beneficial operations by the narrow and illiberal construction given to them by the Board of Works. The architect of the Irish Board is indirectly, if not directly, arraigned and cited as an instance of a man endeavouring to serve two masters. It is, of course, well known in Dublin that the architect to the Board of Works is also chairman of the Civil Service Building Society. It is argued or suggested, therefore, that the two positions held by the architect were inconsistent. The Board of Works proposed to ameliorate the condition of the poor by aiding them to obtain better dwellings, and the Civil Service Building Society had for its primary object

the making of money. The architect to the Board argued that his connection with a Building Society tended to make him a better official; but the committee, so far from looking upon the matter in that view, have registered a very strong protest against the architect to the Board retaining his present anomalous position. In dealing with the evidence contained in this Blue Book, which is of a very important character, we are desirous of not mistaking any conclusion or doing an injustice to any particular official. We will, therefore, postpone a detailed notice, promising to confine ourselves to the text as supplying fair materials for an impartial and independent criticism of the administration of the Board of Works of Ireland.

#### THE BRITISH ARCHEOLOGICAL ASSOCIATION.

THE programme of the excursions and proceedings of the association have been issued. The head quarters this year will be at Wisbeach, and the opening meeting will take place on August 19th, in the Council Chamber, where the reception of the president and the members of the association by the Mayor and Corporation will take place, and the president (the Earl of Hardwicke) will deliver the inaugural address. Places of interest in the town and locality will be visited on each week day up till and including Tuesday, the 27th of August. Evening meetings will also be held for the reading of papers and discussions thereon. The programme includes a number of interesting churches and national monuments which will come under inspection, and have their histories told. Cannot our Irish Archaeological Society members, in connection with a number of our architects, do something kindred, even on a small scale?

#### THE INVENTOR OF THE MICROPHONE.

THE embodied particulars have been made known of the life and career of Thomas Alva Edison, the inventor of the microphone, phonograph, &c. He was born at Milan, Erie County, Ohio, on the 11th of February, 1847, and began to earn his living as a newsboy at the early age of eight. Of a nervous temperament, full of energy of thought and facility of action, the newsboy speedily lifted himself above the rank and file, and at the age of twelve had succeeded in obtaining a monopoly for the sale of newspapers on the Detroit division of the Grand Trunk Railway. In this capacity his energy and inventive faculties found sufficient employment for a time; he employed other boys to work for him, and established a newspaper, the *Grand Trunk Herald*, which he printed weekly in an office he had fitted up in his travelling car. He was editor and compositor of that paper, articles being contributed by employes on the line, while the subscription-list included as many as 450 names. A son of Robert Stephenson purchased 200 copies of one edition, and sent them to England as an example of American newspaper enterprise, and as specimens of the only paper printed on a train whilst in motion. To assist in the sale of the newspaper he carried, Mr. Edison, while still only a lad, made arrangements with the officials at the different stations to chalk on a black board the announcements he sent them by telegraph, so that on arrival at the stations he found a ready sale for his papers, and presumably acquired the means for pursuing his subsequent career. The use to which he had thus put the telegraph, attracted his attention to the study of electricity; and at the age of seventeen he abandoned the newspaper business and established a laboratory, in which he devoted his remarkable talents to the development of the telegraphic system. A comparatively short period sufficed for him to acquire the requisite knowledge to obtain a position in the railway telegraphic service, which he speedily quitted for the more lucrative branch

of commercial telegraphy. At the age of twenty we find him at Cincinnati, with a half-developed idea of what is now known as duplex telegraphy; and two years later he was one of the most prominent electricians in the States, taking out patent after patent, and finally settling at Menlo Park, New Jersey, with a well-appointed laboratory, able assistants, and everything that could help such a man to develop and carry out his ideas. How those ideas have been carried out, and what they were, the world now knows. Of patents Mr. Edison has obtained nearly 200, though, of course, many are merely for details and crude devices, which it was necessary to protect in order to secure the final outcome of his investigations; but such an example of untiring energy and endless research has rarely been seen. Of the many inventions and discoveries of Mr. Edison, the phonograph is alone sufficient to establish his claim to a prominent place in the list of scientific worthies.

#### STONE-QUARRYING — THE POWER OF DYNAMITE.

THE results of a series of experiments made a few days since at Messrs. Mitchell and Co.'s quarries at Portland, will, no doubt, set some of our quarry-owners in this country a-thinking, when they hear of it, and prompt them, perhaps, to accelerate blasting operations. The experiments with dynamite were in the top and bottom "capstone," overlying the well-known Portland stone. Two sections of rock were operated on simultaneously—a section of capstone next the Portland bed, into which were bored the holes in line, 9 ft. apart, and each 3 ft. deep, well planned to cut to and work to each other. The other part operated on was a section of top cap overlying the bottom capstone, but a step back, and into which four boreholes had been made, 3 ft. deep each, and 9 ft. apart, in line with each other. The seven holes in the two sections were charged with 10lb. of dynamite, and electric fuzes inserted, coupled up together in circuit by small copper connecting wire, insulated with guttapercha. The holes were then filled up with water, in lieu of stamping or stemming, and the end wires connected to the two cables, leading the electric machine a safe distance away. The quarry was then cleared of men, and the signal "all clear" having been given, the electric machine was unlocked, the cables attached to the terminals, and by turning the handle of the machine a few revolutions a current of high tension electricity was despatched along the cables through the fuses, exploding the seven charges simultaneously. On examination it was found that the three charges in the bottom capstone had removed a section of rock 42ft. 6in. long by 7ft. 6in. wide, by 5ft. deep, to the bed below equal to 59 cubic yards—equal to 132 tons 15 cwt. The four charges in the top cap had removed a section of rock 42ft. long by 5ft. 3in. wide, by 7ft. deep, to bed of lower capstone, equal to 57 cubic yards—equal to 128 tons 10 cwt. The rock was broken up into blocks from five to 15 tons each, so effectually that the whole lot operated upon—261 tons 5 cwt.—was removed by the quarrymen in two or three days; and on Saturday another lot was operated on in equally as effectual a manner as the former—a section of solid rock—capstone 49ft. long by 7ft. wide, by 5ft. deep, into which four bore-holes were made, 3ft. deep each in line about 9ft. apart, loaded with 6lb. of dynamite, and electric fuses inserted, and exploded in the same manner as the previous one. This explosion operated most efficaciously, removing the whole lot operated on in a perfect manner, the rock having been cut in a clean straight line from bore-hole to bore-hole. The amount removed was 63 cubic yards, or 141 tons. A host of quarrymen and others witnessed the experiments, and were astonished at the vast amount of rock removed with such a small amount of explosive material used and so few and shallow bore-holes.

# THE RECOMMENDATIONS OF THE COPYRIGHT COMMISSIONERS IN REGARD TO WORKS OF ART.\*

THE Royal Commission appointed in 1875 to inquire into the laws and regulations relating to copyright has at length made its report. We do not intend to touch upon those portions of it which are connected with literature, but the parts which affect the fine arts are of sufficient interest to the readers of the *Builder* to deserve some notice at our hands.

It is obvious that whether or not actual changes should be made in the principle of copyright in works of art, the present law requires consolidation and assimilation. For there now exists a copyright in engravings and similar works for a term of twenty-eight years from the date of publication,—a protection which originated in the year 1735 under the Act 8 Geo. II., c. 13. But when we come to the more important class of paintings, and the scarcely less important one of drawings and photographs, we find that the term of copyright in these works of art is, by a later act passed in 1862 (25 and 26 Vict., c. 68), the life of the artist and seven years after his death. Moreover, there is, under 54 Geo. III., c. 56, ss. 1 and 6, a separate term for sculpture, since the copyright in a statue endures for fourteen years; and if the artist is living at the end of this period, then for another fourteen years. The absurdity of such inequalities is quite obvious; it is ridiculous that if two sculptors produce a work in the same month, and one lives for fourteen years and one month, and the other for thirteen years eleven months and ten days, the family of the former should have a copyright for another fourteen years, whilst the children of the latter must be deprived altogether of their father's right. Such being the case, and since it is unnecessary for us to point out its unreasonableness further, we may say at once that the Commissioners make the following suggestions for the amendment of the present law:—"We, therefore, propose" (Report, p. xviii.) "that the term of copyright for all works of fine art other than photographs, shall be the same as for books, music, and the drama, namely, the life of the artist and thirty years after his death. We further recommend that it should be open equally to subjects of your Majesty and aliens to obtain copyright in works of fine art; but aliens, unless domiciled in your Majesty's dominions, should only be entitled to copyright for works first published in those dominions."

In regard to sculpture there is also a further recommendation that every form of copy, whether by sculpture, modelling, photography, engraving, or otherwise, should be included in the protection of copyright, and that copies of statues from the antique should be as much protected as original modern works. So much as to the primary right to copyright in works of art, but there yet remain some secondary questions which have given difficulty to the Commissioners. These relate to the assignment of copyright on the sale of a picture. For at present the author of a picture has the sole right of copying or engraving it, unless it be sold, in which case the painter cannot retain the copyright unless expressly reserved to him by an agreement in writing. But, on the other hand, this right does not belong to the purchaser unless there is also an agreement to this effect. The consequence is that the copyright of many pictures now becomes public property, but from the fact that most of these are in private houses no consequences follow.

The Commissioners, after going through the various views which have been put before them, finally arrive at the conclusion (Report, p. xx.)—"That in the absence of a written agreement to the contrary, the copyright in a picture should belong to the purchaser or the person for whom it is painted, and follow the ownership of the picture." And they enlarge, or rather make, this recommendation clearer by stating that they would not

allow the artist to make *replicas* of a work which has been sold, without the consent of the owner. The creator of the picture would have, after its sale, no more rights than any one of the general public.

It will have been noticed that in the term of copyright in works of art generally, photographs were expressly omitted. The Commissioners in regard to them propose that the term should be thirty years from the date of publication, and that in regard to them and also in regard to engravings, prints, and similar works, the property in the negative or in the plate should remain in the possession of the artist, but that when a photograph is taken on a commission copies should not be sold or exhibited without the consent of the person who gave the order (Report, p. xxi.). It would appear that an attempt was made by the Institute of British Architects to induce the Commissioners to reserve a right to the reproduction of a building for twenty years, and to recommend that copyright in architectural designs should be reserved to the author from the date of erection of a building or the sale of the design. Both these recommendations the Commissioners refuse to entertain, though they give it as their opinion that architectural designs are protected as drawings by the Fine Arts Act, which protection, under the proposal which we have already noted, would be continued. There is, however, a great deal of force in Sir James Stephen's remark, in his note of dissent to some parts of the general report (p. lvii.), that "I cannot understand why an artist should have a right to prevent a statue from being photographed, while an architect has no right to prevent the building in which it is exhibited from being photographed." But it must not be assumed from this that Sir James Stephen is in favour of the general principle: what he points out here is that it is unjust to protect the sculptor and give no rights at the same time to the architect.

Besides these main points, there are a few others of less importance, dealing with what we may term the police part of the question,—that is to say, with the search for illegal prints and the seizure of piratical copies which are being hawked about the country. These need not now detain the reader.

We have thus far only given the actual recommendations of the Royal Commissioners, together with some statements of the present position of the question, so that the effect upon existing things will be made clear. But it is obvious that discussions will hereafter arise whenever these recommendations come before the Legislature upon the principle of the subject which is directly touched by some parts of this report, and notably by the remarks of Sir James Stephen. In the first place, we are inclined to think that, assuming, as we do, copyright in works of art is desirable, it should be for a fixed term of years from the date of publication of the work in question. The sole reason for the proposed term,—namely, the life of an artist, and thirty years afterwards,—is the difficulty which is said to exist in proving the date of publication. But for a good many years the term has counted from the date of publication, and though there may sometimes be difficulties in proving it, yet, on the whole, it is much fairer that every work of art should be protected for a limited and certain period, than that there should be practically different terms for different creations of the artist.

But after all, this question of the actual term for which a copyright should exist is very subsidiary to the point whether it is advisable that there should be a term of years in works of art at all, or whether it should only be limited to certain kinds of work. There is a vast difference between works of literature and works of art. This distinction is exceedingly well put by Sir James Stephen, who says, "I approve of copyright in books, because the MS. has no money value till it is printed, and because when it has been printed every copy is of equal value, so that unless a copyright law existed, the author of the most valuable book

would have no money reward for writing it. For the same reason, I approve of copyright in engravings, photographs, and other works of art capable of being mechanically reproduced in large numbers, each copy being of the same or nearly the same value as the original. I do not approve of copyright in pictures and statues, because a picture or a statue has a value of its own which is not affected by its being copied. I think that such productions are sufficiently protected by the ordinary law of property, for no copy or cast of a picture or statue can be made without the consent of the owner."

The primary object of copyright is to protect the creations of a producer from being copied, so that authors may be induced to bring forth creations for the benefit of the world at large. Immediately they themselves are benefited, and consequently the world at large is benefited by the production of pleasing or instructive works. But it is evident that under the proposed law, and, indeed, under the law as it now stands, a painter or a sculptor will not obtain, and does not obtain, any material benefits. The copying of a picture or a statue is in reality prevented by the ownership of the person who possesses it, and if all copyright in works of art were to be abolished to-morrow, artists might be not one bit the worse. When a picture has once passed from the possession of the artist, it is in reality an advantage for him that it should be as widely known as possible, and even in cases where a picture is sold for the purpose of being engraved, it would be just as valuable, because the person who bought it would have the sole ownership, and consequently the sole control over it, so that he could prevent any unauthorised person from engraving it. This is evident from the way in which works, say of Sir Joshua Reynolds, the property of private individuals, can in effect be only copied by authorised persons. Further, the Commissioners state that it has been proved to them that when a picture is now sold no mention of the copyright is usually made, so that the right to it in theory is lost, though in fact the possession of the owner practically answers the same purpose. All this, we must say, is contrary to our own experience. The copyright of the majority of important pictures now painted is, we know, reserved, and becomes often the subject of a separate commercial transaction, the amount received for the copyright in some cases that we have known exceeding that paid for the picture itself.

Whether radical changes in principle result or not from this Commission, there can be no doubt that it has done good service by pointing out the anomalous state of the existing law, and suggesting its simplification. Not the least valuable part is the individual labour of Sir James Stephen, who has added an appendix, containing a digest of the existing law, and in a parallel column the changes proposed by the Report, so that whatever changes do take place, there is a reasonable hope that the law of copyright will in future be clearly laid down in a concise and intelligible code, and that intricacies and verbiages of Acts, such as that of 56 Geo. III., c. 66, will wholly disappear from the statute-book. We can only hope that this Report will soon become law, so that, at any rate, literary and artistic persons will have no difficulty in understanding the legal position of a creator of works of literature or art.

**THE SOCIAL SCIENCE CONGRESS.**—The following are the special questions selected for discussion in the Health Department, at the forthcoming Social Science Congress, to be held at Cheltenham:—1. The importance of complete disinfection, and the best means of providing for it by sanitary authorities. 2. On the better regulation of house-building generally, and the best mode of improving the sanitary condition of existing houses. 3. How best to overcome the difficulties of overcrowding among the necessitous classes. Several volunteered papers on other subjects will also be read and discussed.

\* From the *Builder*.

## THE BALFE MEMORIAL.

THE memorial bust of Balfe was unveiled on Saturday, the 6th inst., in the National Gallery, Leinster Lawn, Sir Bernard Burke presiding. The original intention, as many of our readers are aware, was that of erecting a public statue, it being thought that £2,000, or at least a sum of £1,200 might be expected to be raised in the native city of the composer. Alas! for human expectations, the original idea was not realised, and owing to a variety of unhappy circumstances which need not now be detailed, the project of a statue had to be given up, and a bust substituted. The commission for a bust was given to our worthy fellow-citizen and excellent sculptor, Mr. Thomas Farrell, R.H.A., who has executed the work to the satisfaction of Balfe's admirers. Sir Robert Stewart, in unveiling the bust, remarked:—"He had the pleasing duty to perform—placing this bust in the National Gallery. Balfe was not like Wallace or Swift, an Irishman by chance of birth, but he was thoroughly such. Added to this, he was the first who made Irish music known on the Continent. He (the speaker) was present as representing the musical profession, and he wished to congratulate the committee, of which he himself had only very recently been made a member, on the success of its labours. He was at present endeavouring to have a memorial tablet placed in the house in Pitt-street where Balfe had been born, and he should consider himself fortunate if he effected this." The Lord Mayor then formally handed over the bust to the National Gallery, trusting it would be taken care of. The chairman said he had great pleasure in accepting the gift, feeling sure that every care would be taken of the fine work executed by Mr. Farrell. It was suggested in the report of the Balfe Memorial Committee that the small cash balance in hands, which was likely to be augmented by several subscriptions still due, should be applied, if sufficient, in giving a "Balfe Prize" for the composition of a song to be composed by any person of Irish birth not exceeding twenty-seven years of age. It was finally resolved that the surplus in hand, with any additional money that might come in, be applied in some way to the encouragement of Irish musical talent.

## CORRESPONDENCE.

## "WHAT IS A BOULDER"?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I am inclined to believe your correspondent, John S. Sloane, right in some respects as to his opinion what constitutes a "boulder"; and I am also inclined to think that, in our future technical manuals—geological and architectural—a new or more expressive definition of the term "boulder" should be inserted. One of the latest definitions given in one of our encyclopædias, describes a boulder as "Any rounded or water-worn block of stone, too large to be included under the heads of 'pebbles' and 'gravel.'" This is, of course, a geological definition, and the science also supplies us with the term "erratic boulders." This last name, it would seem, applies generally to the detached masses of rock which are found lying upon the surface, and which are said to be washed out of the clays of the Glacial period. As these are often found resting on hill-tops, their resting-places, during the Glacial period, it is argued, were banks and shallows in the sea, and consequently arrested the laden icebergs in their course. Near the head of the Devil's Glen, in the Co. Wicklow, there is a block of stone, 27 ft. long, and 18 ft. wide, by 15 ft. in height. This stone, or piece of rock, is termed a "boulder"; and it is said to be the largest boulder known in the British Islands. It is granitic, resting on the Cambrian grits and slates; and what is remarkable in its situation, is the fact that it is six or eight miles from the nearest granite *in situ*, having a shallow valley

between the hill on which it rests and the granite district. Putting the stories of giants and miraculous intervention aside, the boulder at the head of the Devil's Glen must have been moved to its present position by some powerful agents. Was it water, or ice, or both combined; or an effort of cumulative or manual labour, by the use of appliances? We may conjecture, though we cannot certify. Remembering the Pyramids, Stonchenge, and other great stone erections abroad and at home, we may be inclined to attribute too much to nature, and too little to the power of art in past times.—Yours, &c.,

C. H.

## THE ROYAL IRISH ACADEMY—THE CUNNINGHAM PRIZE FUND.

ON the 3rd inst., in the High Court of Justice, Chancery Division, before the Master of the Rolls—in *re* the Royal Irish Academy,—the Cunningham Prize Fund, Mr. F. L. Dames moved to settle the proposed scheme for the administration of the Cunningham Fund by the Council of the Royal Irish Academy. The fund formed the subject of bequest in a will of 1789, made by Timothy Cunningham in the words—"I leave and bequeath to the Royal Irish Academy of Dublin a sum of £1,000, to be laid out in such funds as they shall think proper, and the interest of it to be disposed of in such premiums as they shall think proper for the improvement of natural knowledge and other objects of their institution." Sir Samuel Ferguson and Mr. Richey, Q.C., two members of the Academy, had filed their petition in July, 1877, setting out the will, and what had been done from time to time; but the fund, notwithstanding the efforts of the Academy, had not been useful; and essays not being sent in to compete for prizes, it was found necessary to make some other plan. The scheme, as now brought in, had been settled on behalf of the council, and also on behalf of the general body of the Academy itself, and the Academy had approved of it by formal resolution unanimously after considerable discussion.

The Master of the Rolls asked if it proposed that any part of the money should go towards publication?

Mr. Dames said it did. It had been found that scientific men would not come forward to contribute essays for the sake merely of medals or of pecuniary prizes, and the greatest premium that could be held out to them was to be sure that their essays would be published without expense to themselves, and included in the Transactions of the Academy. The sum in the fund was now represented by £2,600, and the scheme proposed that the income should be applied in prizes of an honorary character,—medals, &c.,—to be awarded to or in honour of persons rendering eminent services to science, polite literature, or antiquities, or in pecuniary premiums to be awarded by the council for the best essays on subjects to be proposed by them, and for the encouragement of industry and learned research, the residue of the annual income to be applied in the circulation among learned men of papers on science, polite literature, and antiquities, and also in the publication of such papers brought before the council as, in their opinion, should be worthy of such publication; but that no money should be applied towards this latter object until due provision should have been made for the other purposes.

The Master of the Rolls asked why the rest of the money should not be given to the men who got the prize medals? It was a perfectly legitimate thing to publish the essays deemed worthy of the Cunningham Prize, and to translate them into French or German; but to apply it to the general publications of the Academy was a more than doubtful course, and he (his Honour) had a strong opinion it should not be permitted.

Mr. Dames said there must be a discretion attached to the council in the matter of awarding prizes, irrespective of the shape or form in which they might be awarded.

The Master of the Rolls—Should not the prize for one year stand over till the next and be doubled, or stand over for three years and be trebled? Why should it be devoted to the publication of papers connected with the Academy? This is the way people are discouraged from leaving property to endowed institutions, because they constantly find it diverted. It was not long ago since a man left £4,000 to build a church; people considered it was a very bad way to lay out money, and they wished to endow a vicar and curate somewhere else.

After some other interrogatories by the Master of the Rolls to counsel, and observations on the replies given, Mr. John Gibson, on the part of the Attorney-General, submitted it was not the intention of the testator to give the Academy power to enrich particular classes of competitors by narrowing the area of competition. If they were to be deemed as having power to restrict the competition to natives of this country, there would be nothing to prevent them from confining the benefits of the fund to the province of Connaught, whereas some of the greatest Celtic scholars, from whom contributions would be in direct promotion of the intentions of the testator, were foreigners. He did not think either it would be right to allow the Academy to devote any part of the funds to the printing of their own Transactions. The second clause of the scheme was objectionable, because under it prizes might be given to essays on "Suttee," or on the comparative merits of French and German words. The third clause gave facilities for the circulation of meritorious papers on natural science, polite literature, and on antiquities. "Meritorious" was too vague a term, and "facilities" might mean paying the travelling expenses of the authors.

The Master of the Rolls said he spoke with great diffidence, having regard to the learning and position of the members of the Academy; but he thought the true intention of the will was this—that once every year there should be held out to learned men—he would not say within what area—an inducement to write essays on such subjects as the Academy should select within the scope of the will, by the offer of the great distinction of the Cunningham Medal, and also a money prize of say £40 or £50, the prize essays to be translated into French or German, and circulated in those countries. Any residue should be given to the successful man. If there should be no essay of sufficient merit, the amount should be carried on to the next year, when it would be possible to give more than one prize. But he thought any clause enabling this money to be disposed of in the publication of the papers of the Academy would be an evasion of the purposes of the will. This was not a question of *cy-pres* application. The offer of a gold medal worth perhaps £15, and a money prize also, would be a great inducement to get learned men to write. He was not certain that the testator ever intended to limit the prizes to Irishmen or Englishmen. His object was to get essays written which would promote science.

Mr. Gibson said the next question was as to the amount of the prizes.

His Honour said he would never dream of taking the decision as to that from the Academy.

Mr. Law, Q.C., M.P., supported the draft scheme, the several clauses of which he went through.

His Honour, in further discussion with counsel, said he would allow a clause empowering the Academy to give a second prize to the second best of the essays sent in, provided it were of a sufficiently meritorious character. The residue might be applied in money prizes to the authors of meritorious papers read before the Academy during the year, provided the subjects of those papers were within the scope contemplated by the will. He would not let the accumulated interest of the fund go to the Academy. There should be a clause providing that the sum forming the original fund together with the accumu-

lations of the interest should be capitalised and formed into a fund to be called the Cunningham Endowment Fund. The court would have to be sure that whatever scheme should be adopted would be in strict conformity with the purposes of the will. He would leave the amount of the prizes to be settled by the Academy, but he thought the principal one should be not less than £30 or £40 together with the medal, as experience showed that the effect of too many small prizes would be to fritter away the efficacy of the foundation.

Mr. Law said the best essays the Academy had ever got were not tempted by prizes at all—such, for example, as Dr. Reeves's "Life of St. Columba." The highest class of writing was not tempted by advertisements. The scheme would be recast in conformity with the suggestions of his Honour.

The matter having been again before the Court on the 8th, it was arranged, in order to suit the convenience of some of the parties concerned, that the case should be put in the list for an early day in the ensuing month.

### UN-PROFESSIONAL LITERATURE— ORGAN-GRINDING EXTRAORDINARY.

We annex two samples of the organ-grinding nuisance in un-professional circles. If "hard hitting" be evidence of nervous vigour and purity of style, the combatants are to be congratulated for their "slashing" articles. Proximity to the Liffey in this summer weather may be doubted as being conducive to purity in the exercise at least of some of the senses:—

(From the *Irish Trumpet*.)

As the leading civil and military journal of Ireland, we flatter ourselves that the public understands us when we take them into our confidence by informing them of our exact position in the republic of journalism. We are above the sneers of a doting contemporary, which would endeavour to make people believe that senility is superior to a vigorous manhood. But to the point.—Our arrangements are such that we can furnish our readers, which include the general public, with the programme of all questions to be discussed at each Cabinet Council and Viceregal conference several hours earlier than any other morning journal published in the British Islands. We have dispensed almost with the ordinary telegraphic wire system, and by a compound duplex system of telephoning, in which the phonograph and the microphone are pressed into active service, our reporting and printing machinery is unapproachable, and our issues worked off with an inexpressible celerity. Having purchased Pelligri's Patent Compound Type-Composing Machine, which forms an adjunct to Chubb's-Walter Improved Printing Press, we are able to dash off a quarter of a million of copies in the hour—six steam presses being now employed in our office, with the usual stereotyping apparatus of an improved description. True, we did not present our readers with a digest of two recent Blue Books before they were issued; but, having seen them in MSS., we considered that the materials were not of sufficient importance to place before our readers. Though twitted for our seeming oversight by the *Homeruler*, we can afford to laugh at its folly and mendacity, while we pity its helpless imbecility. Human nature is human nature, and perhaps the advocate of helots cannot be blamed if it exhibits the characteristics of those it serves. A man that has been brought up the best part of his life in the atmosphere of waterworks may be excused for having contracted water on the brain.

(From the *Homeruler*.)

If we studied our own self-respect we would not again deign to notice the scurrilous rancour of the *Irish Trumpet*; but we owe a duty to our readers and the citizens, whose interests we have faithfully served for upwards of a century, and for this reason, if for no other, we will break through our ordinary rule that we may relegate the dastard who disgraces an honourable profession to the kennel of his inspiration. As we are not in the habit of trumpeting forth our own praises, we will tell the *Trumpet* what we are not. Firstly—we are not one of those who commenced our career as a Liberal organ, and sundry times in every decade turned our coats till our principles became as plastic and as paying as those of the celebrated Vicar of Bray. We are not one of those who unscrupulously interfered with the circulation of a contemporary by employing agents

to buy up by wholesale its copies at various stations in city and suburbs, and thereby forcing newspaper readers to purchase copies of another journal they did not care to read. We are not one of those who employed boys' labour for years, or imported Saxon managers and compositors to replace Celtic ones. We are not one of those who employed Scotch scribes to slander honest men, and exhibit their own vulgarity and effrontery by writing upon subjects they knew as much about as a turkey cock did of the telephone. We never, in a word, wrote what we did not believe, filched what did not belong to us, paid for what was not worth printing, or published what was not worth reading. Not having done these things we can look the world in its face, strong in the reliant belief that we will never have to experience the humiliation of being obliged to contradict to-morrow what we write to-day. Those who live by fabricating sensational trash to satisfy morbid cravings are not unlikely to advance a step farther by twisting the rope to hang themselves. "Sufficient for the day is the evil thereof."

### THE THREE DOGS.

(A TALE OF A FORESTALLING NEWSMAN.)

Three watch dogs—one a noted cur,—

Barked at a city freeman;

The Cork-hill mastiff caused a stir,

And Dame-street's Dandy Dinmont's burr

Amused each cit and leman.

The snappish cur north of the river

Still barks—"I'll have the freeman's liver."

QUIDNUNC.

Mud Island.

### LAW.

#### A BUILDER'S CLAIM FOR EXTRAS.

In May, 1876, James H. Webb and Company (Limited), entered into a contract with Samuel Henry Bolton, builder, to erect drapery and tailoring premises in Cornmarket. On the completion of the work, the contractor put in a claim for a large sum as "extras," and the matter was referred to Mr. James H. Owen, the architect to the Board of Works, who awarded the sum of £448 12s. as the amount of balance due to the contractor. This award was impeached on the ground that the arbitrator had not specified in detail the various heads under which he made up this sum. On a hearing before the judges of the Exchequer Division of the High Court of Justice, on the 5th inst., the Court disallowed the conditional order obtained by defendant, and affirmed the award, with costs.

#### COMMON PLEAS DIVISION.

*Alfred Sharp v. Lady Charleville*.—Action by a builder against Lady Charleville to recover £109, balance of an account for repairing the church at Tullamore. The principal question upon which the matter turned was one of law, namely—whether the repairs which were done under contract in writing could be valued beyond what was certified by the architect named in the contract? The architect certified for £176, and that amount was paid into court by the defendant. The original contract was £802. The Chief Justice reserved the question of law for the court above, and left to the jury the determination of the total value of the repairs done; and, secondly, the value of those done under the special order of Lady Charleville. The jury found for defendant, with liberty to plaintiff to move to have the verdict entered for him for £86 over and above the sum lodged in court. Mr. Hemphill, Q.C.; Mr. Carton, Q.C.; and Mr. Houston (instructed by Mr. Dunne) were for plaintiff; and Mr. Battersby, Q.C.; Mr. Dames, Q.C., and Mr. Fetherstone-Haugh (instructed by Mr. S. R. Fetherstone) for defendant.

#### KILDARE QUARTER SESSIONS.

*James Hughes v. the Board of Guardians of the Athy Union*.—This was an action for £28 3s., for breach of contract. Mr. Mara appeared for plaintiff, and Mr. E. Lord for defendants. The facts of the case, as stated by Mr. Mara, were shortly these:—

In the month of August, 1877, the board of guardians invited, by public advertisements, tenders for the construction of twenty-seven perches of a masonry sewer in the town of Ballylinan. In reply to these advertisements, one Michael Kenna sent in a tender at 50s. per perch, which was accepted by the guardians, and a bond was executed for the due performance of the work, one of the sureties to which was the present plaintiff, James Hughes, for whom we contend that there was a violation of that bond and contract by the guardians, inasmuch as one of the principal clauses in the specification was that the work should be done to the satisfaction of the board's surveyor. We will satisfactorily prove that not alone was the work not done to the satisfaction of the board's surveyor, but that sums of money, amounting in all to £50, were paid to this man in the teeth of repeated protests from their own surveyor. In consequence of these protests, a committee of three guardians was sent specially by the board to examine the work, who not alone reported unfavourably of it, but even went further in their condemnation of it than the surveyor. The consequence was that three-fourths of the work was ordered to be taken up and reconstructed. On Wednesday previous to the inspection, the contractor had obtained an advance of £30, making in all an advance of £50 out of the entire sum of £67 10s. Immediately on receipt of this sum, the contractor abandoned the work and left the country, on ascertaining which the guardians wrote to the sureties, informing them that they were required to immediately set about remodelling the work in accordance with the directions and approval of the surveyor, and for which they would be paid the sum of £17 10s. remaining in the hands of the guardians on foot of the original contract; and, in the event of their non-compliance, the guardians would proceed to have the work executed themselves, and charge the cost, if any, over the sum remaining in their hands to the sureties. In consequence of having received that threatening communication, the present plaintiff had the work reconstructed at a cost to him of £28 3s. over the amount in hands of the guardians, which latter sum of course he was paid on producing a satisfactory certificate from the board's surveyor. It was for the loss of this money, as we contend, wrongfully paid away by the guardians, that we now sue, and which, if the guardians had adhered to the terms of their specification, would have remained in their hands, and would have been available to meet any loss the present plaintiff would have sustained.

The plaintiff deposed to the facts as stated by Mr. Mara.

Mr. Lord said the issue was quite a simple one. The plaintiff was informed by the guardians that the work was defective, and would have to be made good by the sureties for the sum of £17 10s., remaining in the guardians' hands; his having entered into that agreement put him out of court.

Mr. Mara—There was no agreement. The plaintiff complied under a threat of legal proceedings.

His Worship asked where was the privity of contract between the plaintiff and the corporation.

Mr. Mara contended that the breach of contract consisted in the guardians paying the money in violation of the terms of the specification which with the bond must be taken as part of the contract.

His Worship—Suppose you had been sued on the bond, what defence would you have?

Mr. Mara—I look upon that as quite a different thing. There was a contract between the board of guardians and the sureties that the money would not be paid without the certificate of the surveyor, and our contention is that the money thus wrongfully paid away should have been in their hands to cover our loss.

His Worship—The difficulty in your case is that the contract in law was the tender, and its acceptance and the enforcement of it was the bond, and had you been sued on that bond for non-fulfilment of your contract, I do not see what defence you could have set up. It was perfectly in the power of the guardians to withhold the money until the surveyor certified the work, but it was not a condition precedent binding on them;—it was for their own protection, and not for anyone outside the corporation.

Mr. W. Hade, surveyor to the board, swore he made fifteen inspections of the sewer. On all occasions he had found fault with it, and reported so to the board. He had decidedly refused to give a certificate on any occasion.

Mr. James Leahy swore he was chairman of the board meeting on the occasion of the two sureties coming into the board-room. He informed them that there was a sum of £17 10s. coming to the contractor (who he was aware at the time had abandoned the work), and that they, the sureties, would have to make good any defects in it.

His Worship—I feel very strongly in this case,

and I wish I could see my way to catch hold of the guardians, for I believe they treated the sureties very badly. I will adjourn my decision in the case to next sessions, to see if I can afford them any relief, but I fear I cannot.

#### A NEW ANTIQUARIAN SOCIETY.

WE learn that on Saturday the inaugural meeting of a new society, to be known as the "Meath Antiquarian Society," was held in the Courthouse, Kells, under the presidency of the Hon. H. C. Plunket. "Its aim (as observed by the chairman) is twofold—to preserve the ancient monuments of the county, and to promote the study of their history." The proposed rules were submitted to the meeting, and after some discussion were approved. The honorary secretary is Mr. Thomas F. Fay. We shall be glad to notice from time to time the proceedings of this newly-formed Antiquarian Society.

#### THE NEW SCIENCE AND ART MUSEUM.

At an adjourned meeting of the Corporation this day, Mr. Dawson said they were all aware that the question of the new Science and Art Department for Ireland would come before the House of Commons to-night. Now, it was of great importance that the Irish Museum should not be subservient to the Kensington Museum. Mr. Waltham distinctly promised that it would be a sister, and not superintended from South Kensington. He would therefore propose—

The Lord Mayor—You must move the suspension of the standing orders.

Mr. Dawson moved the suspension of the standing orders.

Mr. French objected, but the motion being seconded was adopted.

Mr. Dawson then moved, and Alderman Purdon seconded, "That we request the city members to ask Parliament to fulfil the promise made by the Government in 1868 to appoint a separate governing body in Dublin for the Science and Art Department."

The motion was adopted, and it was resolved to telegraph it to the city members.

#### HELOUAN-LES-BAINS.

FAR away from the "madding crowd" and busy haunts of men, on the very verge of the great waste of the Sahara desert, stands Helouan-les-Bains, distinct, be it understood, from the village of Helouan proper, from which it borrows its name, but which is 2½ miles distant, located on the right bank of the Nile, and prettily nestling in an extensive grove of date palms. It is entirely of the new village I wish to speak, of Helouan-les-Bains, a place of rapidly growing importance, requiring but to be known to be appreciated and sought out as a refuge from the dreary months of an English winter, or as a health resort for sufferers from special diseases. The sulphur springs which are calling attention to this "lodge in a vast wilderness," extend over an area of about four miles from north to south, and from one and a half to two miles from east to west. Villas, built in the Oriental style, with flat roofs, and of two storeys only, are springing up on all sides, either built by the proprietors of plots of land for their own use, or to be let for the occupation of strangers.

The ladies of the harems have several houses set apart for their exclusive use, as they come much from the palaces in Cairo to benefit by the baths, or as a pleasant country residence; for here they are allowed more freedom of out-door life than in the crowded city. We used frequently to see them pass our hotel in the early morning attended by the eunuchs, who would see them to the private door of the Etablissement des Bains and await their readiness to return. Bathing, dressing, and lounging rooms are specially and handsomely fitted up for them, which the attendant permitted us to see after the hours they were required for use. Yellow was the prevailing colour, and satin the texture of the coverings for couches and chairs.

Many families from Cairo migrate to Helouan for a short stay and change of air and scene, very much after the manner of the English who run down to sea-side places for the same purposes. I will describe

it in its two-fold aspect; as a place of pleasant residence for those whose leisure and wealth enable them to exchange dull wintry skies for sunny brightness, and as a sanatorium for those whom, unhappily, disease has marked awhile for its own.

An hour's railway ride from Cairo will bring you to this bright oasis. Stepping from the train you can hand your baggage to the omnibus conductor, who attends the arrival and departure of every train, and you, yourself, can ride or walk to the comfortable hotel which is situated on the verge of the new settlement.

When we first approached the hotel, the scene which greeted our eyes was unexpected and novel. A picturesque group of men and camels was drawn up in front of the covered platform leading to the hotel entrance, and gradually to our amazement, it dawned on us that the bronzed riders of the camels were some of our European friends who had just come in from a long tour in the desert. We were merrily greeted, and the camels were then ordered by their Arab proprietors to lie down, that the gentlemen might dismount. This is a trying process to those unaccustomed to it, as the camels go down on their forelegs first, with a sudden jerk, and leave you on their back in a precarious slant, if the sudden fall forward has not already dislodged you and sent you in an undignified manner to the ground; next, the camel doubles up his hind legs, and you are able to descend to terra firma at your ease.

The Grand Hotel d'Helouan-les-Bains is conveniently built for the accommodation of visitors. In the centre of the square from which the rooms extend is a garden filled with tropical plants, and around this runs a covered way, both on the ground floor and on the only storey above, unenclosed on the garden side, into which both sitting and bedrooms open to the sweet dry air, and into which balcony invalids may easily be wheeled, without suffering fatigue, to enjoy the invigorating atmosphere.

Across the road in front of the hotel some pleasure-grounds are full of tropical growths. Pepper trees with their graceful foliage, palm trees, castor oil plants, acacias, and other flowering trees and shrubs grow in abundance. A large canopied kind of summer-house, with seats, occupies the centre, and diverging from that are shady winding walks, also with benches, on which to lounge or smoke.

There is a large and comfortably furnished drawing-room with piano, boards and men for chess, backgammon, and other games; French and English papers, couches, and easy chairs in abundance. There is also a library and billiard-room combined. Some of the evenings we were there the moon was at its full, and shone down in unclouded brilliance on the picturesque palm and graceful pepper trees, defined against the clear starry sky. The wide main street stood out in strange distinctness from the white nature of the limestone composing it, dug from quarries in the neighbourhood, and the vast wilderness on the other side stretched away into apparent infinity. Merry groups or isolated couples lounged in all directions, while the gentlemen enjoyed an after-dinner smoke. Under the canopied platform, occupying the front of the hotel, a gigantic lantern illuminated the benches and lounge chairs, which occupied the covered space, forming a picturesque bit of colouring by its good adjustment of blue, crimson, and yellow glass. As the evening advanced the tenants gathered themselves together by degrees and joined the less hardy constitutions in the Salon, when music, a little dancing, much singing and merry talk disposed of the remaining hours till we separated to seek "tired Nature's sweet restorer," knowing confidently that the next day the sun would again shine, warm airs again enfold us, the sky be brightly clear, and our plans for the day's enjoyment capable of fulfilment. Blessed Helouan-les-Bains! writing of thee on a wintry day under a sombre sky, in England's damp, uncertain climate, how I envy thee thy radiant surroundings!

For those who are not invalids there are many excursions into the desert to pleasantly while away the time; visits to the different wadys or valleys in the neighbourhood, or to the banks of the Nile and across that river to the Sakkarah Pyramids, which you see in the distance clearly defined against the bright blue sky. Sometimes picnic excursions into the desert are originated in the hotel, when every one mounts a donkey to convey him to his destination, while the provisions are packed on a camel and sent in the rear. The Wadys, which are most interesting to visit, are generally former water-courses from the mountains, and are very wild and fantastic in appearance. The rush of waters has worn the limestone into strange shapes and weird forms, and imagination finds much food in giving names to, and fancying resemblances in, the fantastic carvings of one of Nature's greatest forces.

The ground is often very broken and rough when you turn off the yielding desert sand to invade one of these silent clefts in the mountains; large and small loose blocks of stone impede your path, but your

sure-footed donkey understands better than you do the safer road, and you need only attend to your security in the saddle, leaving to him to pick his way up and down and round the vast impediments strewn sometimes in his way. A few donkeys are always to be obtained at the hotel, but when a large number is required they are easily procurable from Cairo, if ordered by telegram or letter, and are sent down by train at a trifling cost.

Visitors who are fond of sport can find game in abundance on the banks of the Nile, and for those who desire a more exciting chase there are hyenas, wolves, and jackals to be found in the mountains.

I will now briefly glance at Helouan as a sanatorium, for which it was originally designed. The pedestrian in the desert around this village will see the sulphureous nature of the soil cropping up in every direction, and fresh springs are being constantly discovered. The waters used internally, externally, or both, are useful in the cure of a great number of diseases, the details of which are more within the scope of a medical treatise than of a light article like this, but I may mention them as considered especially beneficial in various forms of rheumatism and diseases of the skin, and the purely saline waters are useful in the scrofulous affections of children.

To my mind the great utility of this growing sanatorium is this, its climate and exhilarating influences. Invalids who have been employing the curative agency of medicinally impregnated waters, and who are driven by cold to leave more northern springs to seek a warmer clime, can here find it conjointly with the health-giving waters. There are also many other considerations to recommend it to invalids: there are no tiring hills to mount, but long walks can be taken on perfectly level ground; the air is pure and invigorating; the pleasures are of a quiet and wholesome nature, yet so unhackneyed that they are interesting from their novelty.

A physician and director of the baths resides on the spot; a regular postal service and telegraphic communication are available.

The waters when first appearing on the surface are perfectly clear; but when exposed to sun and air, become speedily covered with a sort of green scum, composed of sulphur and salts of lime, which has been named Baregine. The sulphureous waters cannot be bottled, on account of this liability to decomposition. —S. ANDERSON in *Building World*.

#### THE STATE OF OUR TRAMWAYS.

THE City Engineer has reported on the present state of the street tramways. The Southern line was described as being in bad repair in Westmoreland-street and College-green; while from Nassau-street to Portobello-bridge the line required to be taken up and relaid, as was at present being done at Rathmines. The present plan of laying (viz., by cross sleepers) was much better than the old system. The Donnybrook line wanted some repairs; as did the Exhibition, Sandy-mount, and South Quay lines. The North Quay line being a Sunday and holiday line, was in better repair. The entire of the Clontarf line, except in Earl-street, was sunk below the pavement. The Dublin Tramways Company should be at once called on to commence the relaying of all their lines, commencing with the Rathmines one. He was of opinion the company did enormous injury by the quantity of water they kept constantly pouring on the rails, a large portion of which lodged under the timber. On the lines of the North Dublin Tramway Company he reported that on the entire of the Glasnevin line there were long slits, showing the timbers were springing and the rails had sunk. The North Circular-road line wanted repairs in several places. On the Drumcondra line, along College-green, Dame-street and Parliament-street the entire pavement was in a bad way from want of being relaid with close joints. The only course to get those streets in order is for the Corporation to take up and relay the setts (now down 21 years) with close joints properly grouted, and to call on the company to do likewise with their part. The company had not a sufficient number of men to keep their lines right. He recommended, if the Corporation had the power, to compel a system like that now used by the Dublin Tramway Company in Earl-street and Rathmines, using also steel rails, or to adopt the plan of iron and concrete only.

## THE STAIRCASE-HAND OF THE OLD SCHOOL.\*

A SKETCH.

STEAM power, rapid communication, international intercourse, machinery, cheap professional literature, journalistic and technical treatises, have worked great changes in recent years in the characteristics of all skilled workmen, but particularly in those of the building trades. The carpenter, joiner, mason, bricklayer, plasterer, painter, &c., of fifty years since was quite unlike his brethren of the above restrictive crafts to-day. In some respects he was a better, as also a more general workman, but his ways and methods were quite primitive and exclusive. Taking the carpenter, for instance, he was a compound operative,—a carpenter and joiner combined, and, indeed, a cabinet-maker to some extent, particularly if his practice lay in the provincial towns. The country carpenter was often what was termed a “hedge carpenter” to boot, who, besides executing house-work, was a maker of carts and barrows, and other farming implements, and not seldom a wheelwright and a millwright. The ordinary working carpenter, then, of forty or fifty years ago, was not only good at heavy work, but equally good at light work. As occasions offered, he was a maker of doors and sashes, good at roofing and partition work, handy at trimming and job work,—indeed, ready for any emergency or call, from laying a floor to putting up an ordinary staircase. The professed staircase and handrail hands of fifty years ago, and even much less in London and Dublin, and particularly in the latter city, were a peculiar class of workmen. When they worked at other work apart from staircases they had the choice of the nicest jobs in the workshop or buildings. They were much petted by employers and foremen, and over-praised, and as a consequence, held a very high opinion of their own abilities. Their knowledge of “lines” was greatly exaggerated, and so exclusive were they in their practice that they took care to surround the “setting out” of the plan and elevation of stair and hand-rail with all the mystery that it was possible to bring to bear upon their operations. Some of these operatives of the old school were Solomons and Solons in their way, and their uninitiated adult brethren and apprentices of the workshop, who knew nothing of the mysteries of stair-planning and hand-railing, treated them with great forbearance, if not respect. The staircase-hand of old was a most exacting and dictatorial workman, and ambitious to be an authority on everything in connexion with building. We have before us, in our mind's eye, as we write, a picture of one of these old worthies, but it matters not to the reader in what particular city or town he once practised his calling, for our sketch will be found a fair reflex of the olden representative in most places. Our old staircase-hands were spectacles, and they had a peculiar way of looking through them, or over the rims, that made them appear to be studious and wise, and perhaps otherwise. One of the apprentices in the workshop might consider himself greatly honoured if he was permitted to prepare the drawing-board for “setting out” the plan and lines for the staircase and hand-rail. The board was generally a number of leaves of deal or pine, cleated or clamped together, planed evenly on the top side. When this large drawing-board was ready, the staircase mystery-man either went into an adjoining department, or to a bench at the most distant part of the workshop to commence his “setting-out.” His tools or instruments consisted of one or two well-pointed pencils, a large panel, wooden square, and a smaller steel blade square, a bevel, a trammel (sometimes called Price's trammel) for drawing ovals or ellipses, a large pair of compasses, a lino or piece of cord, a lump of chalk, a smoothing plane for obliterating wrong tracings or unnecessary markings, a bradawl or two, a sharp chisel for repointing

his pencil, a light hammer to drive a brad if occasion needed, and some other odds and ends. With these appliances the mystery-man went to work after due thought and deliberation. Lines wrongly drawn, or which did not please the drawing-master, if not planed out, were chalked out, and many other needful lines were drawn several inches beyond their necessary development and requisite intersections, and made to intersect other lines. This last trick was done to puzzle the uninitiated workman or aspiring apprentice who might be inclined to steal a look at the mystery-man's “lines” when he went to his dinner or to have his beer. The old staircase-hand of the school of Price, Pain, or Nicholson is now nearly an extinct genus. He put up his treads and risers, step by step, levelling each as he ascended, for his sleepers or carriage-peices were fixed before hand. It would have been rank heresy to ask your old staircase-hand some years ago to prepare his string-boards, and put together his flights of stairs in the workshop. He did not dream of such innovation as making stairs like step-ladders in the workshop, and carrying them to the building to be “run up” in their places. He loved his story-rod, on which were marked the number of steps, and with his favourite rod he built up riser and tread accordingly from landing to landing, and from story to story, from basement to attic. Your old staircase-hand was more partial to wall skirting being scribed down to his steps than having a wall or inner string-board. The old staircase-hand was, in the true acceptance of the term, a regular stair-builder, building up step by step, and strengthening his work as he proceeded. But we must not enter into too many details for fear of raising the ghost of the departed.

In handrailing, our old staircase-hand was a mighty personage, whether in dog-legged stairs, stairs with newel posts, single or double, or with well-holes. His ramps and swan-necks were marvellous in their curves and sweeps, and his huge scrolls and twists at a later date were miraculous,—so he thought and so did others of his surprised brethren, who began soon to feel an upheaving and a strange unrest, as if the good old times were drawing to their end. Give him his due, the old staircase-hand was, as far as his light allowed him, an honest, sound, and conscientious workman. Were he alive to-day, though, he would undoubtedly witness good staircase-builders in Great Britain, yet their manner of planning and working would give him a fit of epilepsy that he would never get over. He would be sure to witness, at the same time, hundreds of creaking, break-neck step-ladders, miscalled stairs, and hand-rails the thickness of walking-sticks, undulating up and down like the waves of the ocean. Every carpenter and joiner will tell you now he is a staircase and handrail hand, though we know thousands are not: they ought to be. There is no longer any mystery in the art; all that is needed on the part of the young workman is a little studious attention to master a few simple geometrical principles, and no carpenter, joiner or mason should rest satisfied until he is able to “set out” and “put up” staircases and handrails of all ordinary forms, and in all situations.

The dear old methods of the handrailleurs long tenaciously clung to and worshipped have vanished, except in odd and out-of-the-way places. Several sacred templates and falling-moulds are dashed to pieces, improved cradling and cylindrical forms, for trying sections of the curved portions of the hand-rail upon, to see whether it had its proper pitch and curves, are abolished. “Springing the plank,” or gluing up the rail in several thicknesses, is exploded, or little practised; the step-mould and face-mould, with a centre line and a proper squaring, are all-sufficient with the needful cutlery tools, and the skill for using them well.

The literature of staircase building and handrailing has greatly expanded within recent years, and some useful British and American treatises have been published, but,

like the Round Tower disputants of Ireland, some of our handrail instructors have puzzled themselves in trying to inform others. Desperate efforts have been made by some innovators of late years to save a little material in getting out the wreath and other curved portions of the handrails. It is certainly wise to save valuable material by practical methods of construction, so long as durability and graceful proportions are not sacrificed to cheeseparing economy, but as our subject is with the characteristics of the staircase-hand of the old school, we will conclude here, leaving the surroundings of the practitioner of the new school for treatment on a future occasion if necessary.

## HOME AND FOREIGN NOTES.

**DUBLIN UNIVERSITY DEGREES.**—The honorary degrees of LL.D. has been conferred on Mr. Lecky, for his eminence as an historian; and on Professor Cliffe, for his distinction as a writer on political economy.

**THE KNOX MEMORIAL CHURCH.**—The establishment of a John Knox Memorial Church and Institute, on the Thames Embankment, at a cost of £60,000, is contemplated.

**A NEW AUTHORESS.**—Messrs. C. Kegan, Paul, & Co., the London publishers, will shortly publish a novel of Irish life, by a daughter of the late Smith O'Brien, of '48 memory.

**MONUMENT TO LE VERRIER.**—The Committee which was formed for erecting a monument to this French celebrity has adopted the design for a statue sent in by M. Chapus.

**MEDALS OF HONOUR.**—The five grand medals of honour for foreign artists, have been awarded by the International Fine Arts Jury of the French Exhibition to Millais and Herkman (England); Munkacsy (Hungary); Mackart (Austria); and Wanters (Belgium).

**THE DEATH OF MISS BALFOUR.**—Miss Clara L. Balfour—a name better known in Ireland some thirty years ago—has died at Croydon, Surrey, a few days since, in her 70th year. She was esteemed for abilities as an author and lecturer, and for her services in the temperance cause.

**THE ARTISANS' DWELLINGS COMMITTEE.**—On Friday a report was read at the weekly meeting, from which it appears that the completion of the valuation was all that was required to enable the committee to proceed with the scheme as authorised, in the Coombe area. The first instalment of the loan has been lodged by the Board of Public Works.

**A NEW MOVING MOVEMENT.**—A society has lately been formed in Paris, under the presidency of Mr. Krantz, having for its object the organization of a series of visits to all the principal museums, exhibitions, and public monuments of the capital. These visits are to be made under the guidance of well-instructed lecturers, who will explain to those who may accompany them the artistic or scientific interests of the various objects under observation.

**REV. JAMES GRAVES.**—A tardy recognition of the claims of the Rev. James Graves, our Irish antiquary, well known for his archaeological labours, particularly in connection with the Royal Historical and Archaeological Association of Ireland (formerly the “Kilkenny”), has been manifested in the granting of a Civil Service Pension of £100 per annum. It ought to have been £200, if not more. Civil Service Pensions have also been granted to Dr. Prescott Joule, the inventor of the mechanical equivalent of heat of £200, per annum, and £100 to Mr. Nash, water-colour artist. Miss Chisholm, the daughter of the late Mrs. Chisholm, “the emigrant's friend,” and sister to the wife of the proprietor of the *Freeman's Journal*, has been granted a pension of £50 per annum.

**THE LATE CHARLES MATHEWS.**—Charles Mathews, the celebrated comedian, who died at Manchester, and was buried at Kensal-green on the 30th ult., began life in connection with the architectural profession, and spent some time in the offices of the elder Pugin and Nash. He also acted for some time as a district surveyor for Baw and Bethnal-green. He had a taste for painting; and one of his pictures, “The Lake of Perugia,” was exhibited in the Royal Academy in 1835. In the pursuit of his early architectural studies, he visited Italy in 1823 and in 1827. In 1833, in consequence of the death of his father, he became for a while part proprietor of the Adelphi Theatre; but shortly he resolved on trying his fortune as an actor, and his architectural career ended for good.

\* From the *Builder*.

The Trinity Board have decided to build the new Eddystone Lighthouse themselves, and not under contract. The estimate of the board's engineer was £90,000. There were three tenders, the lowest being that of Mr. Pethick, of Plymouth, £105,000.

The Prince of Wales has fixed August 13th for laying the dedication stone of St. Mary's Parish (Wilberforce Memorial) Church at Southampton. The Freemasons are building a new hall in the town, and hope to get the Prince to lay their stone the same day.

**A BREACH OF CONTRACT.**—At the monthly meeting of the Naas town commissioners a resolution was passed calling on Mr. Anderson, plumber, Dublin, to refund the sum of £6 to the town commissioners, he having contracted to erect a wash-hand stand with a marble top in the lavatory in the town hall, and having supplied one with a delph top.

**IRISH BILLS.**—The Royal assent has been given to the following Irish bills:—Public Works Loans Act, so far as it relates to Lunatic Asylums; Dungarvan Confirmation Act, Artisans and Labourers' Dwellings; Ballymena, Cushendall, Redbay, Belfast and Northern Counties Railway Commissions; Gas Act; Waterford and Central Act; Clare Sloblands; Dublin Tramways Act, 1878; Drumcondra, Clonliffe, and Glasnevin Township Act, 1878; Dublin Central Tramways, 1878; Dublin Southern District Tramway Act; Limerick Corporation Gas Act.

**THE WHITESIDE MEMORIAL.**—Mr. Bruce Joy's model for the memorial to the late Chief Justice Whiteside has been approved by the committee. The figure is bareheaded, and is seated. It was at first intended that it should be draped in the judicial robes and ermine, but as it was then thought fit to remove the wig, so the D.C.L. robes were adopted. The right hand holds a book placed on the knee, while the left hand rests upon the arm of a massive chair. The contour of the right leg, which is slightly extended, is seen through the drapery. The statue will be over seven feet high, and will be of Carrara marble. The sculptor hopes to have his work completed in less than two years.

The Indian papers contain long accounts of the opening of the Empress Bridge across the Sutlej, in connection with the Indus Valley Railway. This is described as a marvellous piece of engineering, consisting of sixteen spans, each 250 ft. long, and is the completion of one of the principal links of a vast chain of railway communication now in course of progress. Sir Andrew Clarke in his speech remarked on the singular fact that the spot where sixteen years ago Mr. Brunton, the engineer, pitched his camp, was the same on which the mighty Iscander encamped when he tried to cross the Sutlej for the conquest of India. Those who are interested in the might-have-beens of history can trace for themselves the course of events had the Sutlej Bridge existed in Iscander's time.

**COUNTY OF LOUTH.**—The county surveyor, in his report to the grand jury, states that the county roads under contract, with few exceptions, continue in good repair. At the last adjourned road sessions no tenders were received for the repairs of roads within the municipal boundary of the town of Dundalk; but since then the unanimous decision of the Court of Queen's Bench was obtained, viz.,—that it is the duty of the town commissioners to clean the streets. I expect that the Ring gathered about this town to obstruct a healthy competition amongst contractors must soon give way. . . . There are now 584 miles of roads under contracts, and but three assistants. I believe it would conduce greatly to the interests of the county to allow another assistant; the increase of work and cost, even in the last four years, would pay over twenty times his salary. What is principally wanted in an assistant is a feeling of duty and responsibility, with integrity and energy; but it must be admitted that the more faithfully the out-door duties are performed, the more proportionally are surveyors and their assistants out of pocket, their travelling expenses not being allowed. This is a defect in the law which I hope will soon be rectified.

**THE LAW'S DEFECT.**—An appeal (says the *Leinster Express*) was disposed of at the Kildare Quarter Sessions, involving a question of some public importance. A contractor was recently summoned by the Naas board of guardians before the local bench for supplying adulterated milk for the use of the paupers. At the petty sessions he was fined £2 for the alleged offence, and from this decision he appealed. At Maynooth on Tuesday the appeal was heard before the chairman of quarter sessions, who ruled that as the summons did not state that the article was sold "to the prejudice of the purchaser," it did not disclose the offence with which defendant was charged. The appeal was, therefore,

allowed; and we have another illustration of the impotence of the Food and Drugs Act to accomplish the object for which it was designed. Had it been stated in the summons that the milk said to have been adulterated was sold to the prejudice of the purchasers, the respondents in the appeal would have had considerable difficulty in sustaining their complaint. The purchasers were the board of guardians, whereas the milk was intended for the consumption of the paupers in the workhouse and the officers of the institution. Having regard to the strict interpretation given to the phrase, "to the prejudice of the purchasers" in a recent English decision, this would scarcely have been held to be an offence within the meaning of the statute.

## TO CORRESPONDENTS.

**IRISH ARTISANS AND THE PARIS EXHIBITION.**—We have more than once advocated public support to assist the proposed visit to the Exhibition on the part of a number of Irish workmen to see and report on several industries. We regret that the response has been so small, and we are of opinion that the large employers of labour in this city ought to willingly contribute more or less towards creditably carrying out the undertaking.

**A BUILDING OPERATIVE.**—We have advocated the object again and again, and the preceding note need not be enlarged upon.

**A CITIZEN.**—We have not forgotten to notice the matter, as you may observe.

**PROVINCIAL ARCHITECT.**—Nothing, or next to nothing, is being done, as far as we can learn.

**RECEIVED.**—J. H.—P. R.—A Lady (thanks)—A Town Clerk's Soliloquy (under consideration)—Cylinder—Sanitas (yes)—M. R., W. C., &c.

## NOTICE.

*We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.*

*Correspondents should send their names and addresses, not necessarily for publication.*

*It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.*

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## Illustration.

GALLEY HEAD LIGHTHOUSE, COUNTY CORK.

## Contents.

|   | Page |
|---|------|
| SOME IRISH ENGRAVERS OF THE EIGHTEENTH CENTURY—   |      |
| MEZZOTINTS AT TAUNTON .. .. .   | 215  |
| Galley Head Lighthouse, County Cork .. .. .   | 216  |
| National Monuments, Ireland .. .. .   | 217  |
| An Unsanitary School-House .. .. .  | 217  |
| English Artisans at Paris Exhibition .. .. .  | 218  |
| The British Association in Dublin .. .. .   | 218  |
| The Irish Sanatorium .. .. .  | 218  |
| Our Sea and Harbour Marks .. .. .   | 219  |
| Notes on the Early History of the Irish Stage .. .. .                                     | 220  |
| An Architectural Judge .. .. .  | 223  |
| Mycenæ, Troy, and Ephesus .. .. .   | 223  |
| Adversaria Hibernica—Literary and Technical .. .. .                                       | 224  |
| Death of Thomas Oldham, LL.D., F.R.S. .. .. .   | 225  |
| The Late John O'Daly .. .. .  | 225  |
| Law .. .. .   | 225  |
| The Irish Beresfords, and their Landed Property .. .. .                                   | 226  |
| Revelations of Artisan Dwelling Schemes—A Hint for our Corporation and Ratepayers .. .. . | 226  |
| Public Works in Ireland .. .. .   | 227  |
| The Manufacture of Coal Gas .. .. .   | 227  |
| Correspondence—   |      |
| Improved System of Laying Down Tramways .. .. .   | 227  |
| St. Douglagh's, County Dublin .. .. .   | 228  |
| Building Made Easy .. .. .  | 228  |
| Who was the Architect of Aldborough House? .. .. .  | 228  |
| The Machinery of Gas Trading .. .. .  | 228  |
| Home and Foreign Notes .. .. .  | 229  |
| The MacDonnell Statue .. .. .   | 229  |
| To Correspondents .. .. .   | 229  |

## THE IRISH BUILDER.

VOL. XX.—No. 447.

## SOME IRISH ENGRAVERS OF THE EIGHTEENTH CENTURY.

## MEZZOTINTS AT TAUNTON.



AN exhibition of engravings at the old Castle of Taunton, Somerset, the head quarters of the Somerset Archaeological Society, and under whose auspices this exhibition has taken place, suggests some notice in an Irish professional publication, particularly as several of the best engravings among the mezzotints on view are the work of Irish artists. Some appreciative and discriminative notices of this exhibition of engravings have appeared in the *Somerset County Gazette*, and, by whoever written, just praise is awarded to the mezzotints of McArdell and Houston, both natives of Ireland, and apprentices of Brooks, who practised as an engraver for several years on Cork-hill in this city before his removal to London. Particulars of the lives of the engravers above alluded to are very scant, and several of those who possess the mezzotints of McArdell and Houston are unaware that they were Irish artists.

Some account of the unfortunate career of John Brooks, the master of these two excellent mezzotint engravers, may not be out of place. During the first half of the eighteenth century John Brooks resided at "Sir Isaac Newton's Head," on Cork-hill. In his earlier days Brooks evidenced considerable industry, and it is recorded that he "made a copy from the print of Hogarth's Richard III. in pen-and-ink, which was esteemed a miracle, for when it was shewed to Hogarth, who was desired to view it with attention, he was so far deceived as to reply he saw nothing in it remarkable, but that it was a very fine impression, and was not convinced until the original was produced to shew that this was a variation in some trifling circumstances." In 1742, Brooks issued proposals for pub-

lishing by subscription one hundred portraits, the subjects to be decided on by lots drawn by the subscribers. This scheme appears to have been partially carried out. In the following year Brooks proposed to engrave by subscription a number of the country seats within thirty miles of Dublin; but in 1746 the engraver left Dublin, and settled in the Strand, London. Here he was for some time patronised by the Prince of Wales and some of the nobility of England and Ireland.

The following account of the unfortunate Brooks's last days is given by a local writer in a popular magazine of the last century:—

"On his arrival in London he produced a specimen of his art, which since has been applied and extended to very considerable manufacture at Liverpool and other places in England, which was the printing in enamel colours to burn on china, which, having been shown to that general patriot and worthy character Sir Theodore Jansen, who conceived it might prove a national advantage, readily embarked in it, took York House, Battersea, and fitted it up at considerable expense. Mr. Gyn [Gwyn], a native of Ireland, a very ingenious designer and engraver, was employed with John Hall, who at that time was very young. The subjects were chiefly stories from Ovid and Homer, and were much admired for their beauty of design and engraving, as well as novelty of execution, and were much sought after by the curious for pendants in cabinets and covers to toilet boxes, &c. This manufacture might have been very advantageous to all parties, but through the bad management and dissipated conduct of Brooks it was in a great measure the cause of the ruin of Jansen, who was Lord Mayor of London at the time; but the commission of bankruptcy was withheld till his office expired, because he did not wish to receive the usual stipend for his support which is customary under such circumstances, which they rewarded him for afterwards by choosing him into the office of Chamberlain, which he held until his death. At the breaking up of this manufactory Brooks went and lodged at a public house in Westminster, kept by one Rose, and never stirred out of his apartment for years. On Rose quitting this house, he followed him to the White Hart, Bloomsbury, where he remained in the same manner for years, and was at last compelled to leave the house, it being sold at the death of his landlord. His old friend Hall, who afterwards became very eminent, took him home, from whose house he never moved until turned out by the undertakers."

We read further of the ill-starred artist that he designed and engraved for the booksellers, and prostituted his abilities to a disreputable work—the memoirs of a W. of P. The composition for printing the plates in enamel was said to be a secret only known to Brooks at the time, so that he made it "his occasional philosopher's stone, and raised money by subscription on popular subjects." His last works appear to have been the heads of the King of Prussia and General Blakeny. Dissipation had now worked his headlong ruin, and we are told his character became so notorious no one that knew him would have any dealings with him; and his sad end is thus related:—"He left London with a lady, and went to Chester, where he had the address to live free of expense for a considerable time at an inn, under the pretence of being possessed of considerable property, where he was taken ill: before his death he made a will, and left the inn-keeper a considerable legacy, with other pretended friends in London. The inn-keeper buried him expensively, and made a journey to London, and found himself deceived, and that Brooks had completed his character by dying as he lived."

Brooks's life affords us an instance of an artist of ability and with a most promising future before him sacrificing all for the gratification of his mere animal passions. We have in his life another instance of an artist excelled by his pupils, for Brooks was certainly the instructor or teacher of a number

of young artists—Purcell, Spooner, Houston, McArdell—the latter considered to have been the most skilful mezzotint portrait engraver of his time. A portrait of Mrs. Brooks, engraved by Houston from a painting by Worlidge, is accounted one of the most pleasing specimens extant of the art.

The house occupied on Cork-hill by Brooks became, after his departure for London, the residence of Michael Ford, another excellent engraver. Ford changed the sign of "Sir Isaac Newton's Head" to that of "Vandyke's Head." There is a list of the engravings published in Dublin by Brooks and Ford given in the appendix of the second volume of "Gilbert's History of Dublin," and we agree with the historian that these engravings "will bear honourable comparison with the best works of any artists of their time." In general these Dublin engravings excel in softness and finish, the productions of Faber, John Smith, and Valentine Green, and can scarcely be considered inferior even to the works of McArdell. The list of Dublin engravings of Brookes above alluded to number 39 portraits, 8 landscapes and views, and some miscellaneous subjects. Those of Ford number 17 portraits, and a couple of miscellaneous subjects. Of course these Dublin lists are only a portion of the works executed by the above artists.

The career of Richard Houston exhibits similar phases of dissipation as that of his master, Brooks. Although not equal to McArdell as a mezzotint engraver, yet it must be acknowledged his abilities were of a high order, and upwards of a century has not injured but increased his reputation as an artist. Indeed, for all general purposes of criticism, the works of Houston and McArdell may be bracketed together. For some years, amateur artists and critics have been puzzled as to which of these artists should be considered the more eminent. McArdell, we are told, had most neatness in the execution of his work, but Houston the most spirit and fire. McArdell forged ahead through his attention to his work and his good character, but Houston neglected his work, got into debt, plunged deeper into dissipation, and lost all command over himself. Some of his patrons—printsellers, and tavern-keepers, and others, frequently had Houston arrested and lodged in jail. The artist used to call this taking his degrees at college, and that he would be senior fellow. Reduced at last by the loss of his reputation, Houston became solely dependent on the printsellers, particularly Bowles and Sayer. A considerable amount of money was made by the latter out of the services of Houston, to whom he used to advance money for the purpose of involving him. Though the artist knew Sayer's object, he had not resolution enough to extricate himself, but allowed himself to sink deeper and deeper into the printseller's debt. Sayer at last had Houston arrested, and confined in Fleet Prison, in order, he said, that he might find him, and have him under his eye. Under the will of Sayer, the chief employment of Houston consisted in copying the popular works of eminent artists at the time, whose names were put to the plates, the prints from which were exported. By these means the Acts for securing the property of the first proprietors were evaded, to their great loss, and the guilty parties concerned escaped the punishment they merited. It is sad to see a man of Houston's abilities remaining in prison for several years, and

never showing any desire of releasing himself by his industry; and it is written—"he gloried in having taken in a printseller, which he said he owed to the accession of his present Majesty (George III.) to the throne." Houston died at the comparatively early age of 54. A local writer, already alluded to, writing at the close of the last century, thus indicates some of the works of Houston—"The print of Mr. Pitt, when Secretary of State, with some pictures of Rembrandt, with twelve running horses, after Seymour and Spencer, and I believe the Duchess of Ancaster, after Sir J. Reynolds, are amongst the best of his performances; and he did not want abilities to have made a distinguished figure in the arts."

A number of the London printsellers, printers, and booksellers in the last century, appear to have been a disreputable class—literary pirates, robbing authors and artists at the same time, paying for nothing but the mere mechanical work of reproduction in letterpress and engraving, and very scurvily for that same. Literary and art property had very little protection, and in the book market a large and most dishonest trade was done in reprints of books, to the injury of the author and original publisher in other portions of the British Islands.

We annex from the *Somerset County Gazette*, a portion of the notice of the mezzotint engravings now exhibiting at Taunton as will interest Irish readers and possessors of the works of the Irish artists named. It will also show in whose collections are to be found some of the works of Brooks, Houston, McARDell, and other Irish and English artists, who contributed to the success of the mezzotint process of engraving. Somerset folk, and Taunton people particularly, are very proud of their townsmen, and are wont to put in a claim whenever they can for the natives of their district. It is a love that we should not like to see die out, and acting on the same line we put in our claims for McARDell and Houston, and others already named, not as distinguished English, but Irish artists:—

"It is in mezzotint engraving that the English have taken the lead, and the study of the exhibition therefore as displaying the full development of *la manière Anglaise*, as the French term the art, is of much interest. Though probably invented by a German, the art having been introduced by Ludwig von Siegen, a lieutenant-colonel in the service of the Landgrave of Hesse, as early as 1600, mezzotint has become almost entirely identified with English engraving, and most beautiful works have been produced in this style. Formerly it appears it was the custom to finish plates entirely in mezzotint, but now the outline of the subject is almost always laid in a bold etching, somewhat resembling chalk engravings, which thus serves to destroy the excessive softness which was formerly so much complained of. The art was peculiarly suited to portrait engraving, and most of the mezzotint engravers of the last century were employed upon the portrait works of Sir Joshua Reynolds, and there is a large collection from various contributors on a special stand at the upper end of the Castle Hall. It will be noticed that of the 200 mezzotints in the exhibition, by far the majority are the production of English artists, including examples of McARDell J. M. Turner, S. W. Reynolds, and other mezzotinters. An example of one of the earliest English mezzotints is exhibited by the Rev. I. S. Gale in a portrait of 'Mary Grinston,' after Wissing, by Isaac Becket. This is somewhat earlier than a mezzotint by John Gole, a Dutch engraver, who seemed to have excelled rather as a line than a mezzotint engraver. Mr. White shows 'The Surgeon Operating' by this artist, as also a pair of 'Dutch Interiors' by a contemporary of Gale's, Cornelius Dusart, a pupil of Ostade's. Mr. Gale and Mr. Walter Maynard show in a remarkable manner the rapid strides which were thus early made in this newly-found art, each exhibiting an example of the mezzotints of John Smith, a pupil of

Becket, and who is deservedly considered to be the best mezzotinter of the period in which he lived. Both subjects are after Sir Godfrey Kneller, in whose employ the engraver was for many years. Then follow engravings by John Dean, Ridinger, Kirkall, Kyte, Preston, and Faber, shown by Rev. I. S. Gale, Mr. White, Mr. Perry, Mrs. Jerningham, Mr. A. Maynard, Mr. H. Connor, and Mr. C. H. Cornish, until we come to the works of James McARDell, of whose mezzotints there are nine examples, chiefly portraits from the collections of Mr. H. C. White, Mr. W. Maynard, Mr. W. E. Surtees, and Mr. J. H. Pring. McARDell is considered one of the ablest engravers of his time, especially in that branch of his art with which this part of the exhibition deals. His engravings comprise a long list, principally of portraits, but he also scraped a few plates from historical subjects by Vandyck, Murillo, Rembrandt, &c. With one exception, the examples shown in this exhibition are portraits, and that exception is 'The Tribute Money,' after Rembrandt, shown by Mr. W. Maynard. There are eight examples of the work of Richard Houston, a most indefatigable mezzotint and chalk engraver. Mr. H. C. White and Mr. C. Lamport show several of his portraits, and Mr. C. N. Welham exhibits 'The Miser,' after Mercier. There are also portraits of Fisher and Martin, and three examples of engravings by William Pether, a pupil of Fyfe's, who flourished in the latter part of the eighteenth century, and who executed several very meritorious plates after Rembrandt and other masters. There are seven examples of the engravings of the venerable Warwickshire artist, Valentine Green, who was appointed one of the six engravers of the Royal Academy. The examples shown here are all portraits, one from the collection of the Rev. I. S. Gale, and the rest from the collection of Mr. H. C. White. There are several artists of this period of whose works only a single specimen is shown, including Wilkin, Brooks, Boydell, Watson, Brookshaw, Watts, Clint, Hodges, &c. The next engraver of any importance to whom we come is Charles Turner, of Woodstock, of whose works there are examples shown by Mr. White, Mr. Gale, Mr. W. M. Kelly, Mr. A. Malet, and the Rev. W. P. Williams. The exhibition is exceedingly rich in the works of Samuel Reynolds, who engraved a vast number of portraits and plates after modern painters. His portraits include works after Dance, Northcote, Jackson, Dawe, Owen Phillips, Gainsborough, Knight, and Sir Joshua Reynolds. We ought to mention, perhaps, that amongst the engravings by Turner is a plate in two states representing Sir C. Warre Malet exchanging treaties with the Peshwa. It is shown by Mr. A. Malet, whose ancestor is the subject of the picture. Another able English engraver, Richard Earlom, is very largely represented in the Exhibition. Mr. Maynard and Mr. Surtees show examples of his plates after Claude Lorraine, and Mr. H. C. White shows a couple of his engravings after Rubens. Wm. Ward was another well-known modern English engraver in mezzotint, whose works are held in estimation by collectors, and no portfolio can be considered complete which does not contain some of his plates. He was the brother of the celebrated painter of the name, and worked chiefly upon the paintings of George Morland, his brother-in-law. He was an associate of the Royal Academy. Miss Trower shows his 'Card Players,' after Peters, a very fine example; and Mr. H. C. White shows a portrait of George Morland, and a plate of George Morland's animal subjects. Mrs. Stuart Paget exhibits a portrait of 'George Prince of Wales,' and Mr. Yendall 'The Minstrel,' after Opie, engraved in the dotted manner. Among the books Mr. Turner shows Turner's 'Liber Studiorum,' and then we come to the engravings of Samuel Cousins, the Exeter artist, of whose well-known works there are several in this Exhibition. Mr. C. Lamport shows two proof engravings after Millais; Miss Dance shows an engraving, 'Childhood's Reverie,' after Sir T. Lawrence; and the Rev. I. S. Gale, a portrait after Watts."

In the exhibition of engravings at Taunton, there are on view a few examples of the now obsolete aquatinta engravings. Wood engraving is represented by a number of old examples of the art, and a local effort in a number of selected subjects engraved by Mr. Bidgood, the Curator of the Taunton Museum. Modern specimens of the engraving art are also in a few chromo-lithographs and a collection of lithographs of various dates, including some specimens of the works of Mr. A. A. Clarke, a Taunton artist. Now, by way of finis, for the present, let us observe that several Irishmen have

attained a very high eminence in the art of mezzotinto, which was first practised in London by Henry Luttrell, a native of Dublin.

An English writer, in the last century, observed:—"That if Ireland had produced such great men in other branches of the fine arts as she has in mezzotinto engraving, she might say to Italy, 'I too have been the mother of immortal painters.'" In his "History of Dublin," Mr. Gilbert observes:—"From the records of the [Royal] Dublin Society we learn that the best engravers then in London were natives of Ireland, which they had left from want of encouragement."

On another occasion we may furnish some further particulars of Irish engravers whose names we have mentioned, and of others of distinguished abilities, who have been strangely overlooked, and whose names and works are rarely mentioned.

### GALLEY HEAD LIGHTHOUSE, COUNTY CORK.

WITH ILLUSTRATION.

GALLEY Head,—a corruption or abbreviation probably of *Galbally* or *Galvally*, or the headland or promontory of the *Galli*, a tribe of the primitive natives of Gall,—is the southern point of Dundeady Island, and of the district of Derk or Dirkin in the parish of Rathbarry and County of Cork.

The "Dearc" or "Derk" in this instance, although giving a name to the adjacent Cove, more particularly applies to the almost unknown but extraordinary depression, grotto, or blow-hole, locally called "Poulfahalliff," a "pollach" or cave-hole, capable of docking an ironclad of the present day, and into which the sea rushes with a western wind, producing a scene at once magnificent and impressive. The idea of erecting a lighthouse on this all but southern point of Ireland (its latitude being about 51° 36') is not at all of recent date, as it was one of those that the Irish Lighthouse authorities had in contemplation previously to the act of Parliament of 1853, which deprived them of powers or funds to benefit the commercial world by the lighting of these coasts, and reduced themselves somewhat to the status of resident honorary clerks or gratuitous agents, remunerated by an occasional pleasure trip, a dinner at Salthill, and a luncheon once a-week in Westmoreland-street. The loss of several large vessels, particularly the *Crescent City*, had the effect of rousing the two great shipping boards—the Liverpool Ship Owners Association and Liverpool Steam Ship Owners Association—who were not long in bringing the Harbour Department of the Board of Trade to a "sense of the situation," and accordingly the late Engineer to the Commissioners of Irish Lights, with Commander Hawes of the Royal Navy, Marine Surveyor and Inspector of Lighthouses, were directed in 1871 to take the requisite steps for securing a site and erecting suitable buildings. All the usual official "red-tape delay," having been successfully overcome in the short space of 21 months (allowing for the distance from Carlisle Bridge to Whitehall Gardens), plans were prepared, tenders issued in February, 1873, and in the March following, Mr. William M. Murphy, of Bantry and Dublin, was declared contractor, who carried out the works with a speed and satisfaction rarely equalled. The Tower is of cut stone, 33 ft. in height to balcony, and

having an internal diameter of 12 ft., the outer diameter at base over the chamfered plinth course is 20 ft., and it tapers to 16½ ft. at neck of Doric ovolo. The building is surmounted by a lantern supplied by the Messrs. J. Edmundson and Co., of Dublin and London, who had the contract for the optical and gas arrangements, unique of their kind, and the largest as yet erected in the world.

To produce a light that would not only redound to the credit of their establishments, but also have a national significance in the fact of this country being not at all behind in the race of scientific manufacture, the senior engineering member of the firm, with the assistance of the late Engineer to the Commissioners of Irish Lights, sought out and experimented on the glass of several well-known manufacturers in England and on the continent; and although for a time undecided whether to employ flint glass (expense not for one moment entering into their calculations or influencing their decision), and thus obtain a very high refractive index, it was found, to procure a sufficient quantity (about 8 tons) free from striæ, and having the requisite homogeneity, was almost practically impossible. It was also intended to produce the lenses in the Stafford Works in Capel-street, Dublin, but as this would lead to delay in the erecting of the requisite grinding lathes and machinery, the "brut" or rough glass obtained at the great glass works of Saint Gobain, near Laon in Picardy, was ground in the establishment of M. Barbieri, of Amiens, and M. Fenestre, of Rouen, at La Villette, Paris. The very high refractive index obtained in the initial manufacture caused a complete change in the calculations usually adopted, and consequent difference in the sections of each of the series of panels in the apparatus, and never before or since Augustin Fresnel designed his annular lens, has such a magnificent result been attained. There are no reflecting prisms, but the apparatus is made up of four tiers of refracting lenses, each with a lamp in an independent focus, and each calculated to join the others in producing a single light of a power which we will simply set down as from 28° to 432°, or from that for the clear atmosphere of an April night to the intensity requisite to indicate its position even in the obscuration of a November fog. In making the sections of these lenses the somewhat unusual chemical radius of 975" was used, and the index of refraction was in every instance measured by a Babinet's goniometer, and proved by the usual formulæ. The calculations being made, the sections were tested by the ingenious methods of M. Leonce Reynaud, and so far as possible by a modification of Mr. Alan Brebner's (of Edinburgh) refraction protractor, which, however, is only designed for glass, with an index of 1.51. The difference of focus from the normal, in each case, making an allowance for the height of gas flame, being—

|    |   |
|----|---|
| 3" | 25—1st focal plane of lenses.           |
| 3" | 41—2nd do. do.                          |
| 3" | 43—3rd do. do.                          |
| 3" | 49—4th do. 150 feet do. over sea level. |

What will be thought of a man attempting the testing of such an erection without asking or otherwise ascertaining the physical constitution of the glass, where made, its constituents, or the formulæ by which its curves or angles were set out, or ground? Yet such was done not long ago on the west coast of Ireland!—with results which might

be expected—very costly as to fees, but not worth the paper on which they were written!

As will be seen by our illustration, which we owe to the courtesy of the author of the design, a more than ordinary means is provided for the quantity of gas occasionally required for this light—we say occasionally, because in reality it is a most economical arrangement, considering the enormous results obtained; being group flashing, the gas is only required during the exhibition of each group, and a most striking and attractive light is obtained with comparatively little outlay; and is the invention of Mr. Wigham, Assoc. Inst. C.E.I.

The lantern, the first of its kind, was erected piece by piece as manufactured on the spot, in the fitting-shop in Capel-street, and jointly produced by Mr. Sloane, Mr. J. R. Wigham, and Mr. J. W. Edmundson; every stage of the design was well considered as to ventilation, heat, and strength, and thought over, and worked out by superior workmen, with the best results; but a work which in any other country in the world would command the notice of all the great "medicine men" and scientific journals, was let to remain unnoticed and unknown as "merely Irish." The designers had only done their duty, fulfilled their contract, and received their pay, such as it was, and might be satisfied with the blessings of the mariners, and the consciousness of having performed the task assigned them.

The engineer, having seen all the lenses completed in Paris, was no more wanted; he was "not required" to finish the work he had taken such pride in—one of the many to which the thirty best years of his life were devoted; he was permitted to sink into oblivion on a beggarly pension, to write a cheque for which brings a blush into the worthy cashier's face, and causes the ink in his pen to turn from black to red! Alas, it is only the way of the world. "Put not your trust in princes," or, we might add, in soulless corporations; but as Fontaine says, "*Aide toi, et le Ciel t'aidera.*"

#### NATIONAL MONUMENTS, IRELAND.

In the Appendix E of the Report of the Commissioners of Public Works, Ireland. Mr. Thomas N. Deane, the superintendent under the board, furnishes his third report on our National Monuments and Ecclesiastical Ruins. He gives an account of what has been done during the year towards the preservation of these interesting ruins, and accompanies his letterpress with some drawings or illustrations of objects of interest or special architectural features belonging to stated structures. We will return to Mr. Deane's report again, but in the meantime we may briefly mention a few matters. During the past year the Church Temporalities Commissioners, in further exercise of their power given them under the act, after inquiry made a choice of 105 additional structures which, out of a large number, appeared to be the most deserving of being preserved as monuments, and vested them in the Board for future maintenance. They also transferred to the credit of the Board of Works an additional sum of £27,446, making in all £50,000, to be applied in repairing and maintaining the 119 churches, ecclesiastical buildings, and other structures selected for preservation. Up to the present the works have been completed at the Rock of Cashel, Seven Churches, Glendalough; Ardmore, Ardfer, Monasterboice, Devenish Island, St. Columb's House, Kells, and Donoughmore. Works are in progress at Movilla, Ardtoke, St. John's Point, Loughin's Island, Maghera,

Kilmacduagh, and Howth Abbey. We are glad to see among the list of those scheduled in the County Dublin, besides Howth Abbey, is the very interesting Portlester Chapel, with ruins adjoining, at St. Audoen's in this city, the Round Tower, Granite Cross, and remains of the Monastery at Clondalkin; the Ruins of the Church of St. Benedict, Dalkey Island; and the ruins of a church at Killiney. Besides Howth Abbey, there are a few churches in the district of Fingal which we hope in the future will receive attention, as they possess some curious and singular architectural features not to be met with in any other district in Ireland.

#### AN UNSANITARY SCHOOL-HOUSE.

At the last meeting of the Abbeyleix Union Sanitary Authority, a lengthened discussion took place on the head of Dr. Moutray's report, as sanitary officer. At the previous meeting Dr. Moutray's statements were denied, as they were at the present meeting, but before its conclusion the Doctor established his case to the satisfaction of the board. In his report of the 11th of July, Dr. Moutray said of Ballyroan school:—

"I hereby report to you that the national school-house here is under the same roof as a cow-house, in which pig feeding is at present carried on—a thin board or partition plastered on one side being the only division. The latrine of the school is in close proximity to it, and to a river used by the poor to supply water for domestic purposes. This closet is at present in a truly horrible state, and to my mind a source of extreme danger to the scholars in particular, and the public poor generally. The yard attached to Mr. Morris's house, which is situate on the other side of the school, is also in a very filthy condition. I inspected the premises last week, and again to-day. No improvement meanwhile, and I recommend the attention of the inspector, Mr. O'Hara, Portarlinton, should be at once drawn to the condition of the school. Any assistance that gentleman may desire from me I will be very glad to afford him. These premises arrested my own attention."

On the 18th of July, Dr. Swan, a consulting sanitary officer, who was called in by the board, reported the yard alluded to as being in a clean condition, but he added in the end of his report:—

"Though no pollution of water is going on at present, still it is obvious from the position of this building that in process of time an overflow or oozing of sewage will probably take place, and contaminate the stream used by many of the inhabitants for drinking and cooking purposes. I recommend the removal of this building, and the selection of a less objectionable site, on which to erect a convenience for the use of the school."

The fact appears, that between the visit of Dr. Moutray and Dr. Swan and others, that the yard was cleaned; nevertheless, Dr. Moutray's report was quite correct, as representing the state of the place when he visited it. The Rev. Father Nolan, as manager of the school, whatever may have been his philanthropic exertions, in this case his evidence was in direct conflict with that of his own curate, who made an entry in the school-books, in May last, that there was a very offensive smell in the school, and that it was unfit for pupils. The curate also made an entry on June 14th, to the effect that he omitted to mention in his former report that a cow was kept in the part of the school boarded off. In his defence of his conduct before the guardians, Dr. Moutray courageously said:—

"Gentlemen, all I have said, all I have written, I am prepared to prove, prepared to swear to. I tell you frankly if the school surroundings return to the state in which I found them, I will again report them, and you will insist on their abatement, or receive my resignation as your official."

Before the conclusion of the proceedings the following resolution, endorsing the conduct of Dr. Moutray, was passed:—

"That the sanitary officer of Ballyroan, Dr. C. D. Moutray, has done only his duty in reporting the sanitary condition of the schools in his district, and deserves the confidence of the board."

### ENGLISH ARTISANS AT PARIS EXHIBITION.

WE learn from the *Journal of the Society of Arts* that the arrangements for the visits of selected artisan reporters to the Paris Exhibition are now complete. Artisans selected by the Joint Committee, or approved by them, will be sent to Paris at the expense of the fund now being raised by subscription, or at the expense of their employers, local committees, &c. Each artisan is expected to devote from eight to fourteen days to the visit, including the time of his stay in Paris and his journey there and back. He must spend his time in the study of the Exhibition and industrial establishments in Paris; and must undertake to deliver to the Society of Arts on his return a written report on the special industry he represents. Suitable lodgings, in the neighbourhood of the Exhibition, have been secured at a maximum charge of 20 fr. (16s. English) per week in advance. Good dinners, served as in England, can be obtained at 1 fr. 50 c. (1s. 3d. English), or three meals a day will be supplied at 3 fr. 50 c. (about 3s. English), at the Workman's-hall, also near to the Exhibition. Each artisan will have free admission at all times to the Workman's-hall, where are reading and writing-rooms, billiard and bagatelle-rooms, &c. Arrangements will be made to enable artisans, as far as possible, to visit industrial establishments and manufactories in Paris. Each artisan sent at the expense of the fund will be paid £8. He will receive £5 on starting, out of which he must pay all charges connected with his trip. On delivering his report he will receive the balance of £3. Free admission to the Exhibition will be granted through the Royal Commission to each artisan. Each artisan will be furnished with a route card, by means of which he will be recognised at the railway stations, both in England and in France, and this will entitle him to attention from guards and other officials.

[We have not learned anything respecting the departure of our Irish artisans for Paris. It is a matter of regret that sufficient funds could not be procured to send even a dozen from our city.—ED. I. B.]

### THE BRITISH ASSOCIATION IN DUBLIN.

THE following are amongst the arrangements made for the forthcoming visit of the above Association to our city:—The meetings of the sections will take place in the Lecture Rooms and Halls of Trinity College, which have been placed at the disposal of the Association by the directorate of the College, and the reception-room, which will be in the Examination Hall, will be open on Monday, 12th, at one o'clock, and on the following days at eight, a.m., for the issuing of tickets to members, associates and ladies, and for furnishing information to strangers. A journal containing the announcement of the arrangements of each day will be ready every morning at eight o'clock for gratuitous distribution. In order to convenience the citizens of Dublin, lists of the members present will be issued immediately after the announcement of a specified meeting, and a branch post office with telegraphic arrangements will be open in the reception-room. The president, William Spottiswoode, Esq., LL.D., will deliver his address on the evening of the 14th, at eight o'clock, in the Exhibition Palace, and on the following evening a soiree will be held in the same building. On Friday evening, 16th, a lecture will be delivered by G. J. Romanes, Esq., F.L.S., on "Animal Intelligence." On Monday evening, the 19th, Professor Dewar, F.R.S., will deliver a lecture on "Dissociation, or Modern Ideas of Chemical Action." On Tuesday evening, 20th, there will be a soiree, and at half-past two on the following day the concluding general meeting will be held in Trinity College. The sectional meetings will commence

on the morning of the 15th, and will be held each successive morning at eleven o'clock. The sections are—A: Mathematical and Physical Science. B: Chemical Science. C: Geology. D: Biology. E: Geography. F: Economic Science and Statistics. G: Mechanical Science.

The following are the principal officials:—*President-Elect*—William Spottiswoode, Esq., M.A., LL.D.

*Vice Presidents-Elect*—The Right Hon. the Lord Mayor of Dublin; the Provost of Trinity College; His Grace the Duke of Abercorn, K.G.; the Right Hon. the Earl of Enniskillen, D.C.L.; the Right Hon. the Earl of Rosse, B.A., D.C.L.; the Right Hon. Lord O'Hagan, M.R.I.A.; Professor G. G. Stokes, M.A.

*General Secretaries*—Captain Douglas Galton, C.B.; Philip Lutley Selater, Esq., M.A.

*Assistant General Secretary*—G. Griffith, Esq., M.A.

*General Treasurer*—Professor A. W. Williamson, Ph. D.

*Local Secretaries*—Professor R. S. Ball, LL.D.; James Goff, Esq.; John Norwood, Esq., LL.D.; Professor G. Sigerson, M.D.

*Local Treasurer*—T. Maxwell Hutton, Esq.

Arrangements have been completed for carrying out excursions, entertainments, and soirees, and up to the present the following have been fixed:—His Grace the Lord Lieutenant and the Duchess of Marlborough will give a reception at the Viceroyal Lodge, on the afternoon of the 15th; and His Grace the Duke of Leinster will, on the 17th, entertain between one and two hundred members of the Association at a *dejeuner* at Maynooth, after the party shall have visited the College, and the historic antiquities associated therewith. The Corporation of Dublin will, on the 22nd, receive a number of visitors to inspect the Vartry Waterworks; and the Earl of Wicklow and the Earl of Carysfort will on the same day entertain the party at Shelton Abbey and Glenark Castle, which command splendid views of the interesting scenery in and about the Vale of Ovoca. The Earl of Rosse will also entertain the leading members of the Association at Birr Castle on the 22nd. The Mayor and Corporation of Kilkenny, and the Marquis of Ormonde have intimated their intention of receiving a number of the members of the Association to visit Kilkenny Castle, St. Canice's Cathedral, and other places of interest in that city. Viscount and Lady Powerscourt have notified their desire to issue cards of invitation for a garden party at Powerscourt Castle on the afternoon of the 22nd; and the Port and Docks Board will entertain on board their steamer, *Alexandra*, a party anxious to visit the works at the North Wall, the lighthouse, and the varied beauties of Dublin Bay; and we understand that it is proposed to exhibit from Howth Lighthouse the electric light, under the supervision of the inventors, Messrs. Edmundson and Co., Capel-street, who will also display the Gramme electric light in the Exhibition Palace and Mansion House.

The Earl of Meath will invite a number of members to his hospitable mansion at Kilruddery on the 17th, and Lord Talbot de Malahide will have the pleasure of showing the antiquities and attractions of Malahide Castle to a party of visitors on the same day. Other contemplated excursions are "the lone and singularly wild valley of Glendalough" and the Seven Churches, and to the Boyne and Blackwater, including Slane Castle Demesne, and Beauparc, Lucan, Leixlip, Salmon Leap, and Lord Anally's, Woodlands. Howth Castle will be visited by the botanical and archaeological sections. The municipal authorities of Cashel have afforded the members an opportunity of inspecting the Rock of Cashel and the classic scenery and archaeological possessions which the town can boast of, and it is anticipated that Professor Mahaffy will act as *cicerone*.

The Right Hon. the Lord Mayor will give a grand banquet at the Mansion House on the evening of Saturday, the 17th.

The Royal Dublin Society will give a *conversazione* in their buildings on Thursday,

15th, and it is expected that Mr. Stanley, the great African explorer, and Captain Burnaby will be present at the *conversazione*. There will be a *conversazione* at the Royal College of Surgeons on Monday, 19th, and on the morning of that day the principal associates will be entertained at the Phoenix Park by the Royal Zoological Society, and a public dinner at the College of Physicians will bring the events of that day to a close. Another *conversazione* will be given on Tuesday, the 20th, by the members of the Royal Irish Academy, at whose disposal for the occasion the Corporation have placed the Round Room and other apartments of the Mansion House, which will be artistically decorated.

On the evening of the 21st a dinner will be given by the Royal College of Surgeons, and on the morning of the 23rd an excursion will start for Belfast, stopping at Lisburn for the purpose of visiting the principal manufactories of that town, and most generous arrangements have been made for the hospitable reception of the excursionists in Belfast by Sir John Preston, Mayor, and the leading citizens of the northern capital.

We learn that the President of the Royal Institute of British Architects (who is an old member of the British Association) will be among the visitors expected here during the present month; and will meet the Irish members of that institute on the 20th inst., to discuss the question of increased country subscriptions. The *on dit* is, that after labor they will retire for refreshment, but so far no details have been arranged; if any, the entertainment will be of a private nature.

### THE IRISH SANATORIUM.

THE health resorts of the continent have been pretty well exhausted. America has had more or less patronage: a trip to Australia has also been a not unusual mandate. These extended journeys by the invalided cannot fail to have struck the thoughtful as somewhat inconsistent. Have we no resorts in these isles which can meet most cases of sinking health? Is the bracing atmosphere of Scotland of no avail, our English coasts of no efficacy, our Irish shore without some revivifying influence? This year, more specially than usual, it behoves the tourist and the feeble in body to select some home spot wherein to renovate exhausted nature. The invalid wants a change of air, no matter what his ailment. Where shall he find a climate, which, whilst affording him all he requires therapeutically, shall not divorce him from home ties,—shall keep him within hail of home? Let us turn our eyes westward. To the north of a bay not unknown in story—Bantry Bay—sheltered by mountains covered with verdure, washed by the Atlantic, enjoying an almost tropical climate, Glengariff, a summer resort and winter sanatorium, invites a visit. Enjoying special natural advantages, it proffers excellent accommodation, excellent food, and, though no railway whistle disturbs its quiet, yet it is easy of access. We think it bids fair to be the queen of Irish health resorts, accordingly we heartily recommend it. Mr. Alex. M. Sullivan, M.P., in a letter to *Social Notes*, says:—"Thanks to the energy and public spirit of Mr. Preston White, of Queen Anne's Gate, London, the Glen is now nearly as well known and as joyously appreciated by health-seekers and lovers of the picturesque as Thackeray, Lord John Manners, or yourself ever declared it ought to be. These latest words of praise—just praise I will say—from you will, I doubt not, have a wide effect. There is at all events one 'union' between the countries we all desire to promote—the friendly communion and sympathetic acquaintance of the peoples, banishing estrangements so largely the result of misunderstanding. This union will be much extended when places like Glengariff receive some of those thousands of Englishmen who annually fly to the moor and the mountain, the loch and the glen, all over Europe."

OUR SEA AND HARBOUR MARKS.\*

(Continued from page 192.)

THE two systems for increasing the strength of the flame in lighthouses, produced by any of the media I have described, are known by the terms *catoptric* and *dioptric*, and the combination of both by the word *catadioptric*—the derivation of these words is from the Greek *katoptrikos*, relating to reflected light, as in *katoptron*, a mirror, from *kata*, against, and *opsomai*, to see; and *dioptrics*, which treats of transmitted light, from *dioptrikos*—*dia* through, and *op* (the root) to see.

The system of catoptrics was for many years represented by metallic mirrors, excepting in a very few instances, where it was sought to form parabolic reflectors by facets of silvered mirror glass in a mould of cement. In "A Manual for Lightkeepers," by the late Engineer to the Commissioners of Irish Lights in 1873,† these systems are described. The dioptric has made rapid strides since that date—even five years being a long time in scientific life; but the catoptric, so far as metallic reflection is concerned, remains pretty much where it did forty years ago, and, excepting in lightships, is rapidly disappearing, having on the Irish and neighbouring coasts in many instances given place to the more accurate inventions of Fresnel, Stevenson, and the *fanals-a-scintillant* of the French departments of Ponts et Chaussées, so ably treated of by M. Leonce Reynaud, in his "Mémoire sur l'Eclairage et le balisage des côtes de France."

Stevenson, in the history of the Skerryvore Lighthouse, erected by him, and lighted in 1844, thus describes the reflectors which were constructed by Lenoir, the same young artist to whom Borda, about the year 1780, entrusted the construction of his reflecting circle; it has been conjectured by some that the improvement in the light was made at the same time:—"The reflectors were formed of copper, and had a double ordinate of 31 French inches. It was not long before these improvements were adopted in England by the Trinity House of London, who sent a deputation to France to enquire into their nature." The same system was also adopted in Ireland; and in time, variously modified, it became general wherever lighthouses are known:—"The parabola is a curve of the second order, obtained by cutting a cone in a plane parallel to one side, and possessing this remarkable property, that a line drawn from the focus to any point in the curve, makes, with a tangent to that point, an angle equal to that which a line parallel to the axis of the curve makes with that tangent."

"It is easy to see that if this curve revolve about its axis, it will generate a parabolic conchoid, which we may conceive to be concave or convex, as we please. If the surface be concave, we obtain the mirror of which we are in search; for every principal section, or that passing through the axis of such a mirror, will necessarily possess the same properties as that of the plane curve, and will each have a focus meeting in one and the same point; the union of all these sections will therefore form a mirror capable of reflecting, in a direction parallel to the axis and to each other, all the rays of light which fall on its surface."

"A perfect paraboloidal mirror, with a point of light infinitely small placed in the focus, would project a beam equally intense at any distance, every transverse section of which would be of the same superficial extent. In practice these conditions can never be rigorously fulfilled. No perfect instrument can come from the hands of man; and every mirror must of necessity possess many defects."

The forming of the mirrors for the Irish lighthouses was in nearly every instance the work of a West Indian artist named Thuiller, who settled in Ireland, and held the position of chief constructor of lightroom and lighting

accessories for many years to the Corporation for Preserving the Port of Dublin, in which position his son succeeded him till his superannuation some short time since. These mirrors or reflectors were of the respective diameters of 24, 21, 16, and 12 inches, according to the class of light or power required; their manufacture was a work of extreme nicety and ingenuity, and few of the Dublin citizens were aware that such a work had been carried on at Halpin's Pool, as it was called, at the point of the North Wall.

The reflectors were formed of a combination of copper and silver, in proportion of sixteen ounces of copper to six of silver—a cube or lugot of each being fluxed with borax and united, was submitted several times to the action of a furnace, and alternate pressure between powerful rollers, until the requisite thickness was arrived at. The plate was then beaten up with hammers of various materials, commencing with boxwood and finishing with polished steel.\* The beauty of the workmanship was such as to leave the impress of the means employed invisible; but nevertheless, reflectors formed as they now are by striking up the copper on a turned steel die, and "spinning on" the silver, are much to be preferred, avoiding as they do the impact of the hammer, which although not apparent is nevertheless latent; and this difference was most perceptible in those furnished to the Irish Lighthouse Department by Messrs J. Edmundson and Co., of Dublin; and in which I failed with a most powerful microscope to detect a sign of hammer or burnisher, nor is there any necessity for such a thickness of silver, and of course there is a considerable saving of expense.

The invention of the Chevalier Borda was an immense stride in the right direction, and with the argand burner produced very grand effects; but like all other inventions, which in practice are subject to the assistance of the ignorant and incapable, a great drawback has always been experienced from the difficulty of enforcing the proper position of the burner in the focus of the reflector. This is not so much felt in the dioptric system, from the size and weight of the lamp being in itself a guarantee for its being placed correctly. Of course frequent visits and constant supervision of the engineer are the best warrant in either systems; but more care should be exercised in the selection of suitable men for lighthouse keepers. A good character and a knowledge of the three R's is hardly a sufficient test for such a service. "They order this matter better in France," but in these kingdoms one principal engineer to an entire coast is quite insufficient, and in Ireland he is not even allowed an assistant.

In describing the dioptric system of augmenting the light and refracting each pencil in the desired direction, it will be necessary to describe the manufacture of the medium employed, which is glass, and it cannot be disputed that to the French government belongs the credit of encouraging and fostering the art of producing the singularly beautiful composition of crown glass, which must arrest the attention of the most indifferent, whether it be in the enormous mirrors of the Hotel du Louvre (28' X 16'), or the clearness of the glazing of the shops in the principal streets and boulevards of Paris.

Ireland made a great effort many years ago in the production of crown glass of wonderful homogeneity and refrangibility, and in Cork the first pressed glass was manufactured—not a flimsy, discolored, soft compound, as we now too often see, but a solid weighty matter, bearing its own evidence of its worth. Table glass of this school is still to be met with in the houses of the old southern aristocracy; the specimens I have seen were all finished on the wheel, but were generally superior to modern "cut" glass. The original chimney stood near the Parliament Bridge, and may be standing still for all I know. Although well aware of many

glass works having been at various times started in Ireland, I am under the impression that the Cork were the only works that endeavoured to establish glass casting in this country.

In England at Newcastle-on-Tyne, the Messrs. Cookson endeavoured for a while, in spite of the vexatious excise law, repealed in 1845, to establish the making of glass for lighthouse optics, but the difficulties they had to encounter were enormous, and it would appear that they were in ignorance of what the French had done in that direction; and in many of the lighthouses in England, and until lately at Dundrum Bay in Ireland, might be seen dioptric belts, the steps of the prisms having been ground out of the solid, and having a joining in the centre of the belt and lens. They never attempted any of the totally reflecting prisms, the reflection above and below the lenses being managed by ordinary mirror glass, ground to an almost imperceptible parabolic concavity, which gave them a directing power.

About the year 1850, the Messrs. Chance, of Birmingham, having got the assistance of some French refugees who were skilled in such work, commenced the manufacture of lighthouse apparatus, and considering that they had all the uphill work to accomplish, with the drawback of enormous wages, erecting of lathes, grinding machines, &c., and without government aid, they have progressed very creditably, and are the only manufacturers of such work in England. But there is no secret in it now; intercourse between the countries has broken down any privacy that did exist, and I have not a doubt—to judge by specimens I have seen on Cork-hill of crown glass from the Union Glass Works, and what I know to be the resources of a certain firm in Capel-street, who supplied the great apparatus for Galley Head (the largest wholly refracting instrument in the world), the Aranmore revolving light, and the Donaghadee fixed—that if there were sufficient business to give the necessary impetus, Dublin could supply a lighthouse optical apparatus as she supplies telescopes, the curves as truly ground, as in England or France, and the glass probably not inferior to that of St. Gobain. But there is nothing to prevent the French glass being used if better could not be had. The old house of W. Wilkins and Co., of Long Acre, has on many occasions competed with great success, using French glass, and were amongst those who sent in tenders for the lights already mentioned of Donaghadee and Aranmore.

The glass of St. Gobain derives its excellence from the fact of the scientific directory being practical glass makers, whose attention is fixed on the component parts used being such as will produce a truly chemical compound consisting of one part or atom of the trisilicate of soda, and one atom of the trisilicate of lime, with a small percentage of alumina, whereas all the other glass I have seen consists of a mixture in reality of two glasses of different densities, the result being that in all the glass products from St. Gobain, whether lighthouse glass or plate, there is only one image, plain, distinct, and sharp; whilst in other glass two or more images are occasionally to be seen reflected or refracted more or less indistinctly. I have heard it said that St. Gobain glass owes some of its excellency to the sand composing its silicates, and that the French Government are most careful not to permit this to leave the country; a gentleman of high scientific attainments in Dublin has a very small phial of this sand which he obtained as a curiosity and great compliment from a French savant.

Mr. Apsley Pellatt, the great English authority on glass-making, in his "Curiosities of Glass-making, 1849," says that crown glass may consist of sand 5 measures, ground chalk 2, carbonate of soda 1, and sulphate of soda 1 (the latter product is being exhibited by the Messrs. Boyd and Co., of Dublin, in the Paris Exhibition, who manufacture it in large quantities, principally for glass making).

Although the following mixtures have been used in the best glass works at different

\* Written for the IRISH BUILDER by an old Lighthouse Engineer.

† "A Manual for Lightkeepers." By John S. Sloane, C.E., &c. Dublin: J. Goggins, 23 Berkeley-road. 1873.

\* A very interesting and beautiful collection of these hammers and other tools is preserved in the Lighthouse Stores at Kingstown, County Dublin, principally due to the conservation of Mr. Sloane, C.E.

times, I merely give them, as matter of interest to my readers. In all such productions there are certain trade secrets; and in one great manufactory, the managing director, although anxious to admit me to a peculiar process, could not do so till he had by telegraph obtained the permission of two of his brother directors. I must in justice say I met nothing like this in St. Gobain. The mixtures I speak of are as follow:—

|        |                       |       |
|--------|-----------------------|-------|
| No. 1. | Silica .. .. .        | 75-00 |
|        | Lime .. .. .          | 6-40  |
|        | Soda .. .. .          | 17-60 |
|        | Alumina .. .. .       | 0-37  |
|        | Oxide of Iron .. .. . | 0-15  |
|        |                       | 99-52 |
| No. 2. | Silica .. .. .        | 72-1  |
|        | Soda .. .. .          | 12-2  |
|        | Lime .. .. .          | 15-7  |
|        | Alumina .. .. .       | 0-15  |
|        | Oxide of Iron .. .. . | 0-10  |
|        |                       | 99-35 |
| No. 3. | Sand .. .. .          | 335   |
|        | Soda .. .. .          | 165   |
|        | Lime .. .. .          | 40    |
|        | Arsenic .. .. .       | 2     |
|        | Cullet .. .. .        | 40    |
|        |                       | 582   |

These will be enough to give an idea of the composition; and in addition several of the English houses have been within the past ten years endeavouring to obtain a perfectly white glass by the addition of sulphate of baryta, red lead, manganese, and cobalt; and a French authority gave 300 lbs. of sand, 200 lbs. of soda, 30 lbs. lime, 32 oz. manganese, 3 oz. cobalt, and 800 lbs. of cullet or broken waste, as a most perfect composition; but the white glass, however beautiful, was soon found to be most delicate and easily destroyed by sunshine; and although at first eagerly sought for by photographers and others requiring colorless light, was rapidly rejected. The effect is seen in many places where French plate was formerly used, as some years ago at the Viceroyal Lodge in the Phoenix Park, and in many of the older lighthouses in these kingdoms, which are in consequence being reglazed; and it is a strange fact that although the French discovered their error, and used remedial measures to correct it, and, as I before stated, became content to produce their glass in the simplest manner possible, many of the English houses still persist in their efforts to procure a perfectly white medium. A gentleman holding a high position in a glass works in England, showed me some small pieces of glass, nearly purple, which he bought from a poor man in Cornwall, as curiosities from the Smalls Lighthouse; I assured him they were no curiosity to me, nor would they be to him, if he persisted in the use of manganese and cobalt, as his house was doing, and the folly of which they would sooner or later find to their cost.

As this subject has extended to a greater length than I expected, I must defer the few words I had to say on flint glass to a future article, in which I hope to describe the methods of forming the lenses and prisms of dioptric and catadioptric apparatus for light-houses.

#### NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.\*

THE season of 1774 witnessed a number of excellent actors, native and English, in Dublin. Amongst others were Mr. and Mrs. Barry, Mr. Aicken, Dodd, Mrs. Bulkely, Smith, and Mrs. Hartley. Lapse of time has relegated some of the above performers to a much lower position than what their admirers assigned them when living, and if some of them are no longer considered representative actors, it is sufficient to know that they once were. Robert Aldridge, familiarly called Bob Aldridge, revisited his native country in this year, and during his stay in Dublin, once more delighted his old admirers with his wonderful specimens of Irish grotesque dancing. Many years before this period it will be recollected that Bob Aldridge and his

pupil Slingsly, drew crowded houses at Crow-street. Aldridge was the composer of a ballet called the "Irish Lilt," made up of original Irish airs, and also an entertainment called the "Tambourine Dance." Slingsly achieved a great reputation as a dancer in Paris, where he performed before the royal family, and he was also reckoned the first dancer at Drury-lane. His agility and motions were marvellous in their rapidity. Respecting the merits of Mr. Dodd and Mrs. Bulkely, a writer often quoted, observes:—"The first characters in comedy they had long supported with the highest reputation. On this occasion, however, private considerations seemed to frustrate public ability. The connection between them was not of the most moral kind, and some recent transactions had excited strong prejudices against them. They made their first appearance in 'Benedict and Beatrice,' in which, notwithstanding their confessed merit, they had the mortification to experience public neglect and inattention." In a somewhat similar predicament stood Smith and Mrs. Hartley—"Their merits were considerable, but their situations were nearly the same, and their success was proportionate." Smith as an actor exhibited some curious traits; he was of a respectable family, and appears to have received a good education. He was known by the appellation for long years of "Gentleman Smith." He married a sister of Lord Sandwich, but the relationship never made Smith a bit the richer. Churchill thus describes the gentleman actor:—

"Smith the genteel, the airy, and the smart."

In the "Life of Sheridan" (Bohn's edition), it is written:—"To pourtray upon the stage a man of the true school of gentility, required pretensions of no ordinary kind, and Smith possessed these in a singular degree, giving to *Charles Surface* all that finish for which he is remarkable. He had acquired the distinction of 'Gentleman Smith' from his unvarying exhibition of an air of distinction, without any false assumption. He had made it an indispensable article of agreement with managers that his face was never to be blackened, and that he was never to be lowered through a stage door." Thomas Campbell says of Smith that "his person was agreeable, his countenance engaging, and his voice smooth and powerful, though monotonous. A potent physical personage he must have been who could swim a league at sea, drink his bottle of port, and after fatigue and conviviality commit his part distinctly to memory. He was respectable in Richard III., and a tolerable Hotspur." Although successful to a limited extent in tragedy, it is clear that Smith's forte was comedy. Boaden has some good words too, of the gentleman actor:—"Smith had been educated at College (Cambridge), and lived in the best society; his correspondence with his great master (Garriick) is frequently graced by quotations from Ovid and Virgil; and Catullus and Mrs. Hartley concur in reminding the manager of his own attachment to Mrs. Woffington. . . . Smith's heroes in tragedy all more or less reminded you of Bajazet—it was the tyrant's vein that he breathed. He looked upon tragedy as something abstract to which all character was to bend; so that he had but one manner for Richard and Hamlet. But his nerve and gentlemanly bearing carried him through a world of emotion without exciting a tear, and you were someway 'satisfied though not much moved.' In comedy his manliness was the chief feature, yet it was combined with pleasantry, so perfectly well bred that I am unable to name any other actors who have approached him."

Of Mrs. Hartley, Boaden and several other dramatic writers have not a little to say. Her face and figure helped her as much to achieve a dramatic fame as her acting, although in regard to the latter, she must be acknowledged to be respectable, at least in some parts. In the light of what Boaden says, it need not be wondered that Gentleman Smith and Mrs. Hartley were received coldly in

Dublin in 1774, notwithstanding their theatrical abilities. "She was tall and striking in her figure, and had golden hair. It was for this woman that Smith of Drury-lane, at his maturity, made a fool of himself—deserted his wife, with the greatest respect for her all the time, and like a green boy would have given up the whole world, as he told Garrick, rather than desert his Rose."

Smith retired from the stage in 1787, and Mrs. Hartley died at Woolwich about the year 1824, at the age of 73. Sir Joshua Reynolds painted her portrait. She is said to be the "beautiful female" in a number of Sir Joshua's celebrated pictures. Mrs. Hartley died in easy circumstances.

Of Dodd, we are told in the "Life of Sheridan":—"Dodd was the most perfect fopling ever placed upon the stage; he was the most exquisite coxcomb, the most ridiculous chatterer ever seen; he took snuff or applied the quintessence of the roses to his nose with the air of complacent superiority, such as won the hearts of all conversant with that style of affectation. His walk upon the boards bespoke the sweet effeminacy of his person; the pink heels, the muslin of his cravat and frills are dwelt upon by the amateurs of his day as specimens of his understanding the range of his art. He is spoken of as 'the prince of pink heels and the soul of empty eminence.'" Charles Lamb speaks of Dodd as a man of reading, and says that he left at his death a choice collection of old English literature.

Mrs. C. Matthews speaks of Dodd as the "high red-heeled stage dandy of the old school of comedy, and was like the generality of actors of his day, a very pompous man, and cherished no mean estimate of the dignity of human nature, and especially of his professional occupation. . . . His rotund person, which was ably supported upon two short though well-formed legs, always elegantly covered with silk stockings, and his feet with Spanish leather shoes, secured by costly buckles; his hair *bien poudré*, the *queue* of which was folded curiously with a sort of knocker which fell below the collar of, oftentimes, a scarlet coat—the little man, in short, was a decided fop of his day, both off and on the stage." Dodd, though accounted an excellent actor, had a weak voice, but his "great merit," says Dibdin, "was singularity, which, guided by a perfect knowledge of his profession, rendered his exertions very respectable."

It is hinted, that it was perhaps owing to the superior attractions of Barry and his wife as much as to anything else, that success did not attend the acting of Dodd, Mrs. Bulkely, Smith, and Mrs. Hartley in Dublin in 1774. "It has been always," remarks Hitchcock, "experienced that in Dublin but one object of favour can be supported at one time. In this case, it is not to be wondered at that the very superior abilities of Mr. and Mrs. Barry and their established fame should have borne down all competition." The first appearances of the last-named performers were as Lear and Cordelia, and Barry and his wife were well supported in their various representations by Aicken. Barry and his wife during their stay, assisted by Aicken, performed a round of characters with a success as pleasing to them as it was profitable. The coffers of the theatre were also at the end of the season left in such a replenished state as to encourage the manager to renewed efforts. The theatrical season of 1774 closed in Dublin on the 16th of July, with the "Grecian Daughter" and "Midas," for the benefit of William Barry the treasurer.

Here is what the author of "A Historical View of the Irish Stage" writes of the season of 1774, and with these words which we quote ends his subject with that year, although his title-page professes to bring us down fourteen years later, or to the close of the season of 1788:—"The review of this season will show it to have been one of the most splendid ever known in this kingdom. Whatever might have been the occasional struggles of the contending parties, whatever the disappointment of some individuals, the public cause was amply provided for. The enter-

\* See ante.

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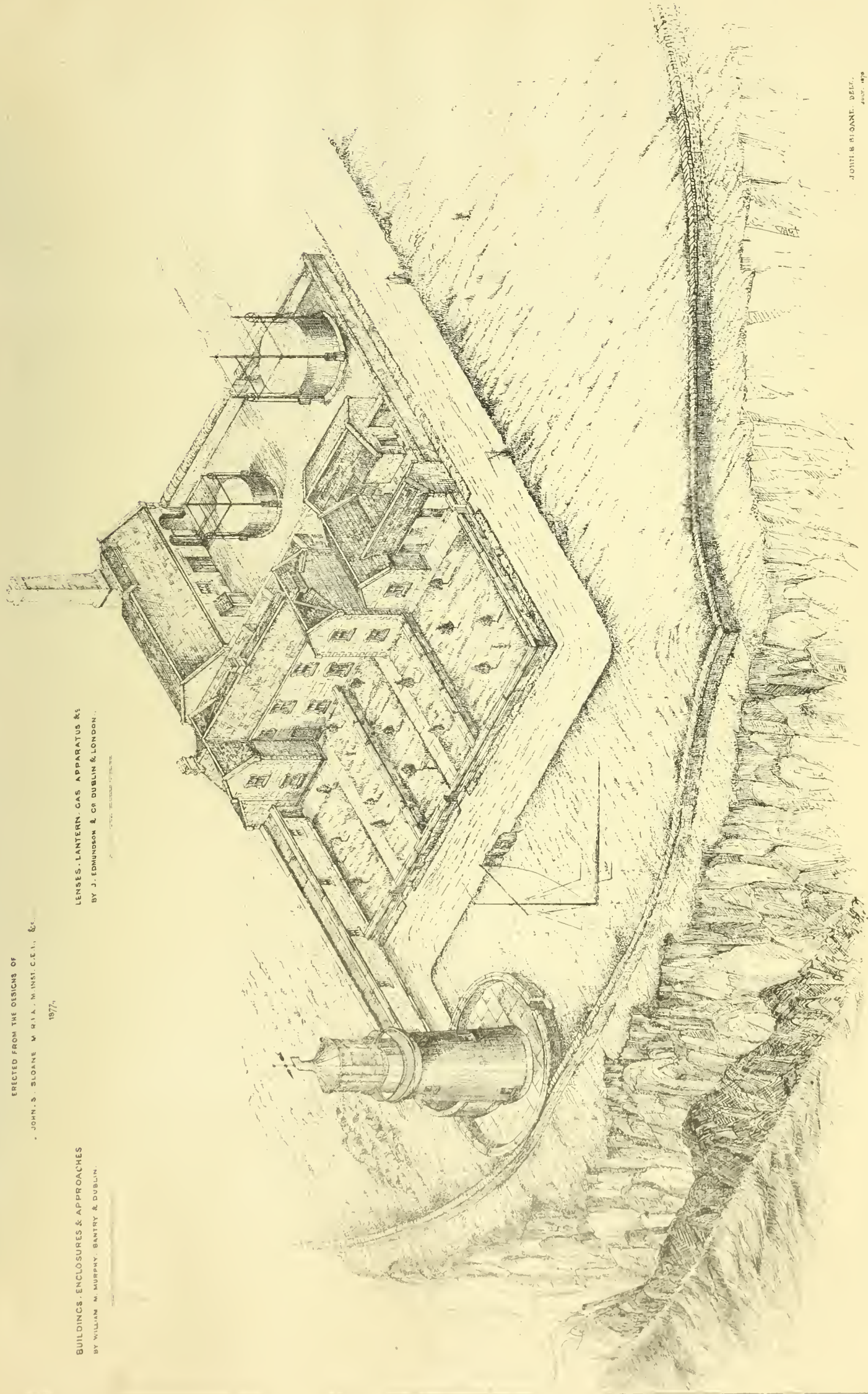
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1877.

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tainments upon the whole were excellent, and the emoluments of the prevailing party considerable. At no time has the town been presented with a greater variety of excellence; at none has it more liberally rewarded its providers. Upon the whole, the season of 1774 may be said to have exhibited the Irish stage in a light of respectability which has been seldom equalled, and perhaps never excelled."

Taking the work of Hitchcock as the basis of our "Notes on the Early History of Irish Stage," we have now taken the reader down the stream of time, showing the rise and progress of the stage in this country. Availing ourselves of other resources, we have given earlier details and more ample particulars of actors and dramatic authors, natives and outsiders, connected in one form or another with the drama in Ireland. Our "Notes" have not only included the annals of the Irish stage down to the year 1774, but they have included brief biographical sketches of the most remarkable actors, actresses, and authors in connection, as also dramatic criticism and anecdotes, original and quoted. We have brought down our subject to a much later period than we had intended; but, having arrived so far and anticipated so much in the earlier portion of our "Notes," we are tempted to carry them down for half a century further, concluding with the year 1799-1800. What we may detail if we proceed to the close of the eighteenth century must be necessarily brief and far less minute than what has preceded it. From the commencement of the present century some other writer, if not ourselves, with more spare time may perhaps in the course of a few years continue our history, enlarge upon it, supply its deficiencies, and correct its mistakes. There is no reason why the later history of the Irish stage should not be as interesting as its earlier one. The materials are more ample, though in the eye of some readers, and perchance the historian, the distance that lends enchantment to the view and review will not be far enough removed to awaken sufficient interest in the work.

END OF FIRST PART.

## AN ARCHITECTURAL JUDGE.

At the City Quarter Sessions last week the Recorder, at a certain stage of the proceedings, took occasion to refer to the causes that prompted the practitioners in his court to forward a memorial to the Corporation at the end of last March, and inquired if any steps had been taken towards improving the court-house. Mr. Bloomfield (one of the oldest practitioners in that court) thought the Corporation had not yet practically taken the matter in hand. The Recorder is reported to have said:—

"The present state of the court-house was a source of much inconvenience to all, and especially to the legal profession. His view of the required improvements was that the passages leading to the table set apart for the members of the legal profession should be more commodious, and that they should be so accommodated as to be directly in front of the bench and facing it. The dock should be erected on a better scale, and the back galleries, which, he thought, were much too high and not easy of access, should be lowered. The bench was also too high. He believed it would be advisable to convert the Peace and Crown offices into police cells, to be connected with the dock by an underground passage, and the five receptacles at the rear, used for prisoners, should be, by making the necessary alterations, made the offices for the Clerks of the Peace and Crown. The smaller court also required to be reconstructed, and all this could be effected for a moderate sum. He thought it necessary to refer to this matter, to give the Corporation a reminder, and to urge the expediency of pressing forward the matter, inasmuch as the same inconvenience should, if possible, be obviated for the coming October Sessions."

Mr. Ennis (another old practitioner in that court) approved of his lordship's suggestions. He considered the condition of the smaller courts was simply intolerable. His lordship thought the probable cost of remodelling the

court-house would be no more than £2,000. At the request of the Recorder, an official note, signed by all who practised in the court, was forwarded to the Corporation, urging them to carry out the necessary alterations. Apart from the duty of the Corporation, we are inclined to be poetical and original, and sing—

Behold a judge, our City's great Recorder—  
A judge of brick and stone, and law and order.  
Glory! 'tis filled at last the great *hialus*,  
And architect and estimate we've *gratis*;

## MYCENÆ, TROY, AND EPHEBUS.\*

(Concluded from page 204.)

Dr. Schliemann has also declared that he has found the Palace of Priam in the depths of these excavations. The only knowledge we have of Priam's residence is from the words of Homer; he describes it as being very beautiful, with "well-polished porticos," and having "fifty chambers of polished marble" for the accommodation of Priam's sons and their wives, also "twelve roofed chambers of his daughter's, of polished marble," where they and their husbands lived (*Iliad* vi., 245). There was also a "vestibule," and "a much-echoing porch" (*Iliad* xxiv., 322). Having been reading up the "*Iliad*" before visiting the Troad, and having this description fresh in my memory, you may guess my astonishment when a few mud walls were shown to me as this palace. These walls enclosed three small rooms, the largest of which is not over 20 ft. in its longest dimensions, and I may add that there is no appearance of polished porticos; on the contrary, they seem never to have had either doors or windows, so that King Priam and his large family must have gone out and in by means of the chimney. When the guide who was with us told me this was the Palace of Priam, I said if he had announced it as the palace of Priam's pig I might have accepted the statement. There is a drawing here to-night, the accuracy of which I guarantee. You may judge for yourself regarding the style of architecture, and come to your own conclusion as to whether it belongs to the palatial or pig-stye order.

I have still something to say in relation to this palace and its position with regard to the so-called Scaen-gate. This gate is undoubtedly deserving of that name. There are only about 3 ft. of the walls left standing, but the lower part of the door posts are recognisable, and the old stone flags of the roadway are still left *in situ*. From its depth below the present surface, I should say, it is in all likelihood a very old gateway. As the largest amongst the stones in the wall is only two feet long, and the most of them are not half that size, also their being joined with earth, takes them out of the category of the Cyclopean style, I must refuse, on the grounds already given, to suppose that it belonged to the walls of Priam's City. In addition to this objection, I have to point out that the so-called palace is placed right across the roadway of the gate. Its position is only a few feet from the gate, and there the very mud wall yet stands like a barricade, stopping all thoroughfare going either in or out. Imagine a house built across Fleet-street, only a few feet within Temple Bar, and you will have the same conditions. It is clear that if such were the case the traffic out or into the City could not pass by that route. I need scarcely point out to you that no one would be allowed to build a house across a public street, and that close to one of the city gates. The conclusion must be that the gate had been closed up, or rather that it had been destroyed, and had ceased to be used when the houses were constructed, and as it is thus evident that the two did not exist together, they cannot possibly have been the Scaen-gate and the Palace of Priam, as described in the "*Iliad*" of Homer.

I may add my own explanation as to the gate. It seems to have been destroyed, and

• By Mr. William Simpson, F.R.G.S. Read at the Society of Arts, May 29

at some later date a street was formed over it, cutting down the walls of the gate to about three feet from their base. This new roadway was formed at a right angle to the older line of the gate, and the so-called palace was erected along the line of the newer thoroughfare. This later roadway ascends towards the east, and is described in Dr. Schliemann's book as "The Great Tower of Ilium."

The palace may have been a habitation constructed by Scythians or Gauls, who, we know from Herodotus, made inroads at times, and even occupied Asia Minor; but whoever it may have been that erected these houses, it is evident that they were not accustomed to such conveniences as doors and windows. Xenophon describes some houses on the route of the Ten Thousand, not much different from these dwellings at Hissarlik; they "were underground; the mouth resembling that of a well, but spacious below; there was an entrance dug for the cattle, but the inhabitants descended by ladders." ("*Anabasis*" lib. iv. c. 25.) The houses in Armenia do not differ much from this description in the present day.

Although, I consider, these late explorations at Hissarlik as most unsatisfactory in regard to the identification of the Homeric Ilium, yet I would say, if such a place as Troy ever existed, I should give the preference to Hissarlik over that of Bounarbashi. The real truth is that neither of the localities can be reconciled with the Ilium, but Hissarlik, I think, presents the fewest difficulties.

At Gergis, which is the supposed Pergamos of the Bounarbashi site, we do find Cyclopean masonry. At the south-west corner of the old walls there is a fragment of the rude kind, with the large interstices filled up with smaller stones, similar to the walls of Tiryns and Mycenæ. There is also later Cyclopean work, as well as walls of rectangular masonry. Drawings of these are in the room.

Much more might be said in relation to Mycenæ and Troy, but I have confined myself as nearly as possible to the buildings or architectural remains which exist, or have been brought to light by the recent exploration. Even within these limits I know that there is more which could be said, but I have done as much as my time would permit. What I have described is what I have myself seen, and not only seen, but have also sketched, which I find fixes details more firmly in the memory than merely looking at objects can possibly do. I have given you the deductions which have resulted in my own mind in regard to these explorations, and it is for my hearers to form their own opinions upon the various points which have been laid before them.

At Ephesus, to which we must now turn, there is not the same uncertainty about the result of the discoveries made by Mr. Wood. The site of the Temple of the great Diana of the Ephesians has been discovered. This important fact has been accepted by all the authorities, and there is not one who can be named as having a doubt on the subject. This being the case, there is not so much to say in relation to it. There are other conditions which also tend to curtail description or criticism; these are, that all the important blocks of marble are in the British Museum, and all that is to be seen at Ephesus is the deep fosse where they were found, and which is now filled with water, and inhabited by a large colony of loud croaking frogs, who treated me to a morning concert when I was sketching there. As you all know, about 20 ft. of soil had accumulated over the original level on which the temple stood; but before this earth had gathered over the spot, the most of the marble had been removed. Still enough was left to reward the discoverer, and to settle some important points. Amongst these, the plan of the temple has now been determined in every detail. The description which existed of this celebrated temple mentioned the existence of sculpture, on the columns, and this was a point which had given rise to much variety of opinion. In this, again all doubt has been set at rest, for

some of the sculptured drums have been found, and one of them may now be seen in the British Museum.

Previous to Mr. Wood's successful explorations there were two theories as to the probable site of the temple, and these also involved the question as to the position of the Magnesian and the Coressian gates. The site of the temple being now determined, the position of the two gates has also been satisfactorily settled. The question as to which is Mount Priou and which is Mount Coressus, is one I cannot pretend to give an opinion upon; but I should be inclined to think, from the position which the temple occupied, that the early or first foundation of Ephesus was most probably on what is now known as the Castle-hill at Ayasouluk, and that the principal ruins which exist at the present day only mark the site of the latter city, which dates from the time of Lysimachus. It is on this Castle-hill that it is now thought the remains of the Cathedral of St. John have been at last found. The remains are undoubtedly those of a Christian church. A few massive blocks of fallen wall is all that is left; the only part of the plan of the church which is now visible, is that of the circular apse at the east end. One of the drawings in the room to-night is called the "Gate of Persecution;" it must have been the entrance leading to the church, and on its arched roof can yet be seen remains of paintings, evidently of saints. There is a small Greek chapel close to the site of the older church, and this gateway still forms the approach. The word Ayasouluk, the name of the village at this spot, has received a good many renderings, but the most probable would seem to be that from "Agios Theologos," and which would also connect it with St. John the Divine. Falkener, in his work on Ephesus, p. 150, gives a statement on the authority of the Greek Synaxaria, that—"The Church of St. John is said to have been built on a hill in old Ephesus." Falkener, with his theory of the site of the temple, could not have supposed that this might have been the Old Castle-hill; but if it should turn out that this is really the remains of St. John's Cathedral, it will form an additional ground for assuming that the original Ephesus stood on this hill, and that the modern village of Ayasouluk stands on the spot where the first colonists founded the city, and to which they were led, according to the tradition, by means of "a fish and a wild boar."

#### ADVERSARIA HIBERNICA, LITERARY AND TECHNICAL.

A DIGEST of the original edition of George Semple's "Building in Water" (1776) was given in one of the back volumes of this journal, but it is not generally known that the Dublin architect issued in 1780 a second edition of his work, containing three parts instead of two. There was a London as well as a Dublin issue of the second edition of Semple's volume in the same year. The former, as the title-page says, was "Printed for the author, and sold by T. Longman, No. 39 Paternoster-row; J. Almon, No. 178 Piccadilly; and I. Taylor, No. 56 opposite the Great Turnstile, Holborn." The Dublin second edition with Part III. shows an alteration in the title of the work as originally printed in 1776 by J. A. Husband, of 28 Abbey-street. The principal heading of the new volume is printed thus:—"Hibernia's Free Trade; or, a Plan for the General Improvement of Ireland, peculiarly adapted to a Free Trade. In Three Parts, &c. Dublin: Printed by R. Marchbank, and sold by W. Wilson, No. 6 Dame-street, and L. Eliu, No. 15 Castle-street. M.DCC.LXXX." The efforts that were being made to secure a national parliament in 1780, and which was accomplished two years later, prompted, we may suppose, Semple to add a third part to his treatise on "Building in Water," and the patriotic spirit of the times similarly influenced the Dublin printer and publisher to add a new title—i.e., Free Trade,—making

the original title subsidiary to the second. Publishers are generally wide awake to doing a stroke of business; and if a book has once served its purpose, and if no copyright exists in it for the benefit of the author, they are not a bit scrupulous as to changing its title, if circumstances favour the sale as a new edition.

This matter apart, we will now furnish some extracts from Part III. of this rather scarce edition of Semple's "Building in Water." We may premise, however, that the new part contains three chapters, and is divided into a number of sections. The questions of free trade, exports and imports, roads and their construction, the establishment of fairs and markets, the reclamation of land, the duties of surveyors and supervisors, and other kindred questions, are discussed. The new volume, we might add, also contains a new preface by the author, in addition to the dedication to the king (George III.), in which preface the author gives some fresh particulars as to his life, motives, and enterprises. Here is a short and most interesting account of a little tour made by Semple to the Province of Connaught, in the early part of his career:—

"On the 13th day of August, 1739, I set out from Dublin, and after much riding came to Sir John Bingham's, in Castlebar, thence to Newbrook, and from thence I set out from Mr. Bowen's on 26th, at six o'clock in the morning fasting. My route was for French Park, in the County of Roscommon, which, as I was told, was computed at fifteen miles, and that I was to go through Breeze and Mournen, which was one reason of my not taking any breakfast, as I thought to take it at the former. But, behold, the inn was a little but made with sods, with a hole on each side of the door, of about a foot square, by way of windows, which was generally stopped with straw in cold weather, and another hole left open in the thatch for the smoke, and a piece of a turf hung by a string on a bit of a stick by way of a sign, and the only improvement I saw about it was two old whitethorn trees, and before me I could not see any one individual thing but heath. However, I pushed on till I came to Mournen, and that was just of the same kind and condition of the former, where nothing was to be had but whiskey and tobacco, and the like dismal and extensive prospect was all around me. But at length, having grown extremely hungry, to my great joy I espied a pretty little white house, which I ardently wished might happen in my way; so it nearly did, and I rode up to the door, and asked a servant maid that stood there, if it was a public house, and she answered, no; but I heard a voice prompting her, and she asked if it was a public house that I sought for. I answered her I wanted to breakfast. With that a very genteel-looking gentlewoman advanced, and desired me to alight, which you may be certain I was not long in doing. In short, I think a more hospitable reception I never experienced. Her name was O'Mealy, and she was a descendant of the family of Grana-Veal."

The above picture of pastoral Ireland and Irish life and hospitality nigh a century and a-half since would make an admirable subject for a native artist. The meeting and breakfast of the architect of old Essex Bridge and St. Patrick's Hospital with the descendant of Grana Uile, or Grace O'Malley, with attendant accessories, would form a striking national picture.

Pendant to the above we have additional side lights of Irish life in Connaught, and pictures that met our Dublin architect's view in 1739. Semple continues:—

"I soon set off again, and about 3 o'clock happened on such another inn as those two I have described. But I shall not trouble my readers with my repast, yet I sincerely pity the deplorable state of that family. I pushed on again with the same dreary prospect around me, not meeting through the whole way any thing that could be called a road; indeed, in many places I could hardly discover even a beaten path, but what was almost covered with heath, nor any thing else to be seen quite round as far as my eyes could reach; and yet it could not be called a mountain, but I believe a great part of it was boggy, because it all seemed tolerably level. Now whether I missed the right road through this heath or not I cannot affirm, but at length I found myself quite lost, and could not find anything like the traces of a road; and as night approached, I concluded that I must take my rest by lying down among the heath

with my horse tied to my leg. But alas! I could meet with nothing through the whole day that was fit to nourish him, and so I wandered about on horseback, till at length I had the comfort of moonlight, and fortunately for me heard a man whistling. I made toward him, and found he was herding a little field of oats then in stocks, and I hired him to guide me to French Park, to which I did not arrive till after ten o'clock: and I can safely affirm, that, to the best of my knowledge, I did not see above six houses, such as I have described, nor above eight men and women, and perhaps not above half a score of any kind of four-footed beasts; and as I was exceedingly well mounted, I can safely conclude that I certainly must have travelled upwards of forty or forty-five miles that day."

From the above dreary landscape Semple draws an inference, which he thus puts before his readers in 1780:—

"On a supposition that the nine hundred of miserable aged people now pent up together in the poor-house in Chancell-row, as above mentioned, had been then settled in this spacious tract of ground, and even two or three knit stocking manufactories set up among them, what a populous and flourishing colony might that have been now!" &c.

After showing where and how roads might be made throughout the kingdom, fairs and markets established for opening trade, and detailing other national wants, Semple proceeds to give his description of a surveyor or supervisor of abilities qualifying him to carry out such public works under some board of management. Our architect and social improver writes thus:—

"A person proper to supervise these works ought to possess the following qualifications: 1st. He must be extremely well versed in the practical business of a surveyor of land, in all its various branches, and be able to produce specimens of his own works actually performed with his own hands. 2nd. He must be sober, diligent, and strictly honest. 3rd. He must be healthy, active, able and willing to undergo the most laborious fatigue that can properly relate to the business of his vocation, and give due and personal attendance to it. And it may be presumed that no gentleman will use means to impose on the board, by endeavouring, through their influence, to put any person into such a weighty employment who doth not enjoy these or the like qualifications. This ought to be strictly observed, because many weighty matters will depend on it."

Good advice, in sooth, George Semple! but you yourself had experienced how jobbery and influence can keep the right man out of the right place. During his day our Dublin architect, after achieving a well-deserved reputation by his public works, was promised the controllership of works in connexion with the inland or canal navigation through this country, but by some underhand influence he was circumvented, and less fitted or unfitted persons appointed.

We may refer on another opportunity to the matter contained in Part III. of the second edition of George Semple's Book.

In our boyish days the body-snatchers or kidnappers were not extinct. Rightly interpreted, kidnapping means the stealing or carrying away of a living person for some criminal purpose. An abduction, too, may be considered a species of kidnapping. Living persons, however, were often kidnapped in former days for the purpose of dissection, being murdered in the mean time by the kidnappers, who represented to the doctors or hospital surgeons that the bodies they brought them were freshly taken from the grave. The suburban graveyards about Dublin, north and south, were often the scene of many kidnapping or body-snatching operations in the early part of the present century. The old churchyards of Killester and Kilbarack in Fingal were somewhat notorious places, and were often visited by the body-snatchers of Dublin. Friends and relatives of the deceased were often obliged to keep watch and ward for several days, till decomposition set in, to prevent graves from being opened, and bodies carried away to the Dublin hospitals. In London the body-snatchers were known by the appellation of "resurrection men." Nearly the whole of these exhumators were otherwise engaged in thieving, and formed the

most desperate and abandoned class of the community. Many of them kept a horse and cart, which were utilised in carrying away stolen goods, and, if out late at night and questioned by the police, they were wont to allege that they were "getting subjects for the surgeons." Many of them were convicted either for stealing or housebreaking. The ferocity of these resurrection men was horrible. In his evidence before a Parliamentary Committee about fifty years ago, Sir Astley Cooper said of the resurrection men of that day:—"They are the lowest dregs of degradation. I do not know I can describe them better. There is no crime they would not commit; and as to myself, if they should imagine that I would make a good subject they really would not have the smallest scruple, if they could do the thing undiscovered." Mr. Brodie (afterwards Sir Benjamin Brodie) gave similar evidence. He affirmed "they are as bad as the worst in society. When I consider their character I think it a dangerous thing to the community that they should be able to get ten guineas for a body." Mr. Brooke said:—"They are the most iniquitous set of villains that ever lived."

These opinions were given by men eminent in the medical world—men who were partly indebted to the body-snatchers or resurrection men for subjects for dissection. Owing to a change in the law, for many years past the body-snatching fraternity has ceased to exist. The unclaimed bodies in our hospitals and poorhouses (as well as the bodies of those who in life have expressed their desire that their bodies after death should be dissected for the interests of science) furnish enough of cases for the surgeons in our hospitals of to-day. H.

#### DEATH OF THOMAS OLDHAM, LL.D., F.R.S.\*

WE have to record the death of an eminent geologist and a most excellent man at Rugby on the 17th of last month. Prof. Thomas Oldham has long held a distinguished position in the world of science. In 1843 we find Col. J. E. Portlock, who had charge of the Ordnance Survey of Ireland, writing of Mr. Oldham as follows, in his Report on Londonderry:—"In my own department I have derived the great advantage from the services of my chief assistant, Mr. Thomas Oldham, first in the field, and subsequently during the preparation of this report. His knowledge of minerals I have freely used in the list of simple minerals, and in the minute examination and description of rocks, and his ability as a draughtsman in compiling the map and sections, and I may add that whenever I have required his aid in any branch of the work I have found him possessed of the highest intelligence and the most unbounded zeal."

Mr. T. Oldham held also at this time the chair of geology at the University of Dublin, and subsequently that body gave him their LL.D. degree. In 1854 the geological survey of Ireland was commenced under the general direction of Sir Henry De la Beche, Captain—afterwards Sir—Henry James, R.E., being the chief of this survey, under whom Prof. Oldham served as a geologist. On the resignation of Capt. James in 1846, Prof. Oldham was appointed Director of the Geological Survey of Ireland, which post he resigned in 1850, and was succeeded by Prof. Jukes.

Prof. Oldham joined the Geological Survey of India in March, 1851, and held the post of Superintendent of the Survey and Director of the Geological Museum of Calcutta until the early part of 1876, when in declining health he resigned and returned to England, being succeeded by H. B. Medlicott, M.A., one of his chief officers.

In the Records of the Geological Survey of India, 1876, the retirement of Dr. Oldham is referred to in the following words:—"This number of our Records would be sadly wanting without a word of grateful farewell to a

man who has conducted the labours of the Geological Survey of India from their beginning until now. When Mr. Oldham came to India in 1851 the Geological Survey cannot be said to have existed. Some coal-viewers and improvised geologists had made occasional reports to Government, but there was nothing that could be called an institution, either as to staff or abiding place. Prof. Oldham conferred at once upon his post the influence of a well-known name, and the experience he had for years acquired as Director of the Geological Survey of Ireland. With those guarantees, by personal address and energy, he quickly acquired the confidence of Government, and by its liberal support he was able rapidly to bring together an efficient body of working geologists, with and through whom he soon began to throw light upon the rocks of India. To appreciate fully what he has effected one should have experience of the position, where every means, material and personal, had to be formed or imported; and, further, one should see, what is only known to those present, the very valuable library and the extensive collections brought together by his care. Due honour paid to the intelligent liberality of the Government of India, it is to Dr. Oldham, whether as Superintendent of the Geological Survey or as President of the Asiatic Society of Bengal, more than to any other man, that Calcutta owes the magnificent museum-building it can now boast of. All this he now leaves to his colleagues and successors. Failing health compels him to retire from the service, and leave the country before he could give form and unity to his labours. Those who reap where he has sown should ever remember the great debt they owe to Dr. Oldham."

Prof. Oldham was elected Fellow of the Royal Society on the 9th of June, 1848, and he received the royal medal in 1875. In presenting the medal Sir Joseph Hooker said:—"A royal medal has been awarded to Dr. Thomas Oldham, F.R.S., for his long and important services in the science of geology; first, while Professor of Geology in Trinity College, Dublin, and Director of the Geological Survey of Ireland, and chiefly for the great work which he has so long conducted as Superintendent of the Geological Survey of India, in which so much progress has been made that in a few years it will be possible to produce a geological map of India comparable to the geological map of England executed by the late Mr. Greenough; also for a series of volumes of Geological Reports and Memoirs, including the "Palaeontologia Indica," published under his direction. Prof. Oldham is the author of more than twenty Geological Memoirs and Reports, published in the Journal of the Geological Society of Dublin, that of the Geological Society of London, the Journal of the Asiatic Society of Bengal, the Government Records of the Geological Society of India, and other serial publications."

The list of these publications is before us, and others. To the end of 1873 they amounted to thirty-four, the last being on the "Coal Fields of India," and they are remarkable for the wide range they embrace in the sciences of physics, geology and mineralogy, as studied both in Ireland and in India.

As far back as 1843 Prof. Oldham linked his name indissolubly with geology by the discovery, in the Cambrian Rocks of Bray Head, of the then earliest known fossil, to which the late Prof. Edward Forbes gave the generic name of *Oldhamia*. This was a discovery which, in its day, created a similar impression amongst geologists as that produced when Sir William Logan announced the discovery, in the Laurentian rocks of Canada, of *Eozoon*.

Dr. Oldham was also amongst the earliest workers on the geology of Ireland to show that, above the ice-scratched rocks of the island marine shells were found in clays and gravels up to 600 ft. above the level of the sea, and, arguing on this discovery, he produced two maps showing the state of Ireland as a group of islands when submerged to that

depth, and also when submerged to a depth of 1,000 ft., which he considered himself justified in believing to have been the case.

Dr. Oldham, in addition to the fellowships, &c., already named, was a member of the Royal Irish Academy, of the Soc. Imp. de Natur., Moscow, and of numerous other learned societies at home and abroad.

#### THE LATE JOHN O'DALY.

WE would like to see some movement set on foot to do honour in a judicious manner to this humble and industrious Celtic scholar, who has lately passed from our midst. For upwards of thirty years he was a well-known figure in our literary annals, in the character of Celtic scribe, transcriber, translator, author, and antiquarian book collector and seller. We have no hesitation in saying that he was a much-neglected man, and too often overlooked and his services ignored by public and literary characters who utilised them. A man who enjoyed the friendship of the late John O'Donovan, Eugene O'Curry, George Petrie, and their friends and associates, was one deserving of recognition. He not only rendered useful information to the above, but also worked in harness with them in different directions, as also in conjunction with the late James Clarence Mangan and Edward Walsh, the poets, whose metrical translations from the Irish are well known. Poor John O'Daly! we, too, have known you for a space of thirty years, and have not been loth in the distance and unknown to you, to urge your claims upon your countrymen, but we have lived to see you dropping into the grave a neglected though still an honourable man, holding to your profession and your books until the very last. A man who bore his crosses bravely through life is entitled at least to a Celtic Cross above his grave, as well as a few words *in memoriam*. C. H. C.

#### LAW.

##### HIGH COURT OF JUSTICE (CHANCERY DIVISION).

THE case of the Attorney-General v. the Bray Commissioners came before the Chief Clerk to the Vice-Chancellor, in reference to the litigation now pending between Mr. Davis, of Bray, and the Commissioners of that town, as to the right of a company, recently formed, to establish a bathing-place for ladies, and a pavilion and floral hall, on the Esplanade, at Bray. Mr. Davis, a ratepayer, and owner of three houses recently erected on the Esplanade, opposite to where it is proposed to place the ladies' bathing-place, has filed an information in the name of the Attorney-General against the Bray Town Commissioners to restrain the Bray Pavilion Company from going on with the works. The baths have been almost erected. The opposition to the project on the part of the relator was that the Town Commissioners of Bray were bound to keep the Esplanade unimproved on and for the recreation of the inhabitants of the neighbourhood and those resorting to it, and that they had no authority to lease any portion of it for permanent buildings. The application to the Chief Clerk was on behalf of the Commissioners of Bray for an extension of time for filing their statement of defence. After some discussion, time for filing the defence was extended until the 5th inst.

THE MONUMENT TO MACKENZIE.—The Scotch Celt, John Mackenzie, the compiler and editor of "The Beauties of Gaelic Poetry," is now fifty honoured by a public monument about to be erected in Gairloch. The monument is in the form of an obelisk, of Aberdeen granite, 13 ft. 6 in. high, and the site chosen for it is a projecting rock outside the churchyard and overlooking the grave. It bears both Gaelic and English inscriptions. The work has been executed by Messrs. Robertson and Law, Inverness. It is but justice to add that the movement was originated by the *Celtic Magazine*.

### THE IRISH BERESFORDS, AND THEIR LANDED PROPERTY.

A LONDON paper has for several weeks back been presenting a series of articles under the heading of "Our Old Nobility," showing how they enriched themselves and got large landed possessions into their hands. With the politics of the article we have nothing to do, but some of the statistics given concerning the Beresford and other Irish and English families are somewhat startling. Doubtless Irish readers in general know a good deal concerning the Beresfords, who figured during the era of the Irish Parliament and at the time of the Union; and the eccentricities of the third Marquis of Waterford, a generation ago, are in the recollection of many. The head of the prolific family of the Beresfords owns in Waterford 40,050 acres, in Londonderry, 36,019; in Wicklow, 26,324; in Leitrim, 4,682; in Kilkenny, 1,456; in Antrim, 426; in Cavan, 222; in all the total of 109,179 acres. There is a Dowager Marchioness who owns 6,537 acres in Northumberland, and 296 in Hampshire. Lord Decies, who is also a Beresford, owns 6,394 acres in Northumberland, 20 in Westmoreland, and 979 in Meath. Then there is Lady De la Poer Beresford, with 5,198 acres in Argyll; also Lord Charles Beresford, with 19,688 acres in five Irish counties; also D. W. P. Beresford, with 7,266 acres in Carlow; also J. B. Beresford, with 11,389 acres in Londonderry and Donegal; and the Most Reverend Gervaise Beresford, with 8,590 acres in eight Irish counties. Thus we have in all a grand total of 175,436 acres.

After entering into details of the different alliances of the family, the offices they held in the army, the civil service, and the church, the writer of the article alluded to goes on to state:—The great pasture-ground of the Beresfords used to be the Irish Church. About a generation ago an account was drawn up from various Parliamentary returns, which showed what profits various branches of the family derived from taking holy orders. First on the list is Lord John G. Beresford, Bishop of Cork and Ross, then of Raphoe, then of Clogher, then Archbishop of Dublin, and ultimately Archbishop of Armagh. From 1805 to 1834 he drew from the revenues of the church £348,683. Next there was the Rev. George Beresford, Bishop of Kilmore, who in thirty-two years received £296,864. Next the Rev. Charles Beresford, four years Rector of Killashee, and 25 years Rector of Termonmaguirk, who received £111,225. Next the Hon. and Rev. G. D. Beresford, Rector of four livings, who in 34 years received £57,926. Next the Hon. and Rev. W. Beresford, who in 26 years received from four livings £38,210. Next there was Lord Decies, who in 28 years received from two livings £36,619. Next there was the Rev. J. J. Beresford, who in 13 years received from two livings £13,532. And, finally, there was the Rev. J. G. Beresford, who in nine years received from two livings £13,395. Thus in 34 years eight Beresfords drew from Ireland as ministers or dignitaries of the Irish Church no less a sum than £916,454. Need we be surprised that so many Beresfords are at the present time great landed proprietors in the sister Island? I may add that prior to this a former Lord Decies had received £200,000 from one of the archbishoprics.

Besides the Beresfords in the church, there are a considerable number in the army and the civil service, of whom I cannot speak particularly. I may, however, take two or three samples of the rest. First on the list comes General Viscount Beresford—an illegitimate son, but the most distinguished of the whole family. He commanded the British army in the bloody but victorious battle of Albuera, was wounded at Salamanca, and, under the direction of Wellington, attacked and carried the fortified heights of Toulouse against the French at the close of the Peninsular War. For these services he received very liberal remuneration. He was awarded an annual pension of £2,000 by Act of Parliament for his own life and those of his two

immediate successors; he obtained an ornamental colonelcy at an annual value of £1,182, a captaincy of a eadet company, annual value £469, and the Governorship of Jersey, salary £1,100. The next tax-eating Beresford was H. B. Beresford, who received £2,157 annually as compensation for abolition of the sinecure office of storekeeper of the Customs, and J. C. Beresford, who also received the like amount for the abolition of a similar office. Less than 300 years ago the Beresfords did not own in Ireland a single foot of land. One Tristram Beresford was appointed manager of the Ulster Plantations of the Corporation of the City of London, and it is since that date that the Irish branch of the Beresfords have accumulated their large landed possessions.

### REVELATIONS OF ARTISAN DWELLINGS SCHEMES.

#### A HINT FOR OUR CORPORATION AND RATEPAYERS.

WE wonder is there any member of the Dublin Corporation at present holding an anomalous position, and whose duties as a member of the Town Council are in complete conflict with the private interests of himself and his co-adventurers, and that his conduct in relation to certain properties is calculated to reflect discredit upon local self-government. Any one who cares to read the last report of the weekly proceedings of the Metropolitan Board of Works, London, will be able to thoroughly understand our meaning. To enable the citizens of Dublin in general to understand us, we will give them a summary of the proceedings alluded to.

At the last meeting of the Metropolitan Board of Works a very lengthy report was brought up on the Works and General Purposes Committee by Mr. D. Rogers, the chairman of that body, with regard to certain allegations made against Mr. Joseph Storey, a member of St. Luke's Parish, and elected to serve at the board on the 13th ult., in room of Mr. Alfred Walker. The report in question went on to state that certain facts and circumstances had come to the knowledge of the committee, which rendered an inquiry necessary. It appeared that shortly after the election of Mr. Storey, certain claims for compensation by owners of property, required by the board for the Whitecross-street improvement scheme, under the Artisans, &c., Dwellings Act, were sent in, and that one of the largest claims, dated April 9th, 1878, which was for the sum of £47,052, was signed by Mr. Storey and two other persons. At the same time the committee were informed that Mr. Storey was one of three gentlemen interested in property to be purchased by the board for the Whitecross-street scheme, and also that he had been connected with some of the property taken by the Vestry of St. Luke for the Golden-lane improvement, towards the cost of which the board had consented to contribute a sum not exceeding £39,642, being a moiety of the estimated cost. A sub-committee, consisting of fourteen members had been appointed, to whom the consideration of the allegations were referred for investigation. Mr. Storey, who attended the meeting of the sub-committee, stated that he had been a member of the St. Luke's Vestry three years last May, that he was chairman of the Improvement Committee, and that it was the second year of his holding that office. As regarded the Whitecross-street scheme, Mr. Storey admitted that he was one of the three persons holding property involved in it, but said the agreement under which they acted was dated December 4, 1876, and was made between James Smith, a member of St. Luke's Vestry, Henry James Fenwick, and himself. He further stated that the parties who sought the acquisition had, some time previously to the agreement, joined together in endeavouring to get the land for the purpose of laying it out on an improved building scheme, and for leasing, selling, or otherwise dealing with the same, for their joint benefit. It further appeared

that part of the property referred to in the agreement was within the area dealt within the board's Whitecross-street scheme, including houses in Porter's-place, Gloucester-court, Chequer-alley, King's-court, Davies-court, and Blue Anchor-alley. Mr. Storey also said that Messrs. Smith and Gale held a great deal of property in different parts of the parish, but that he had none himself in London beyond what he had in St. Luke's; that before his connection with Messrs. Smith and Gale he had begun to acquire property in the locality, having bought one house in Chequer-alley so far back as 1873, and that from that date he had continued to acquire property in the locality. In March, 1875, he took professional advice as to laying out his property in Whitecross-street on an improved building scheme; and prior to the agreement of the 4th December, 1876, that is, in November, 1875, he became acquainted with Messrs. Smith and Gale, they acting together with him under a draft agreement, which was superseded by that already mentioned. Dr. Pavy, the medical officer of St. Luke's, made his first representation with respect to the area comprised in the Whitecross-street scheme on the 26th November, 1875, and his official representation on the 4th November, 1876. With regard to the local improvement in Golden-lane, the attention of the committee had been directed to certain properties in the line of thoroughfare known as Smith's Cooperage; and they ascertained from Mr. Storey that it originally belonged to Mr. John Samuel Smith, a member of St. Luke's Vestry, who sold it to Mr. Storey, at the end of 1875, for £4,000—Mr. Meanwell finding £3,000, and himself £1,000 of the money. After fifteen months he said he sold it back to Mr. John Smith for £8,000; and, from the printed minutes of St. Luke's Vestry, it appeared that they resolved to acquire the property for £12,300. The amount of the purchase-money, Mr. Storey stated, was settled by the Improvement Committee, of which he then was, and is now, chairman, after taking the opinion of Mr. Allen, the parish surveyor. Mr. Storey further stated that the amount claimed for the property was £15,300, and that he had privately expressed an opinion that £10,000 would be quite enough for it. He admitted, however, that he did not oppose the payment of £12,300 in the Improvement Committee, or at the Vestry, and that he moved *pro forma* the adoption of the report, recommending the Vestry to purchase the property for that sum. The committee, at the close of their deliberations, resolved that from the fact that a claim was before them, signed by Mr. Storey and the other two gentlemen named previously, for £47,052, in respect of property in which he was largely interested, they were of opinion that Mr. Storey's duties as a member of the board are in complete conflict with the private interests proved to exist.

In the light of the above suspicious transactions we do not wonder at the resolution of the Metropolitan Board of Works. The report of the Board was adopted, none voting against it. In justice, however, to Mr. Storey, we must add that a memorial for the churchwardens and vestrymen of St. Luke's was presented to the board expressing every confidence in the integrity and uprightness of the accused. Mr. Storey also entered into a defence of his own conduct, denying all the charges made against him, saying that he was not a member of the Board of Works until last month, whilst all his transactions in purchasing property had been before that time. He thought it would be a monstrous thing because he was serving a local office that he was to be deprived of holding property in the parish he was serving. He said he challenged the fullest inquiry, and was prepared to justify his conduct before any tribunal, and concluded by saying he would not resign his membership of the board, as he was asked to do. The Metropolitan Board of Works does not, as far as we can see, deny to Mr. Storey, or any other man, because they could not, the right of

holding property in the parish in which he served. The lines they proceed upon in the present instance in our view, and every honest man's views, we hold to be sound. The Artisans' Dwellings Act, and the operations under the same, are not to be availed of to the public injury. It would be a monstrous thing if members of public boards, corporations, or town commissioners, or others, were allowed, while holding office, to combine with adventurers outside to profit by certain improvement schemes, and pull the wires successfully for doing the same.

We fear the charges brought against Mr. Storey could also be brought against others in London and in Dublin, and other cities and towns. We trust, however, this case will open men's eyes in this city and put them on the alert; and should any members of our public boards be caught in doing similar acts as those alleged against Mr. Storey, that they will be visited with condign punishment.

### PUBLIC WORKS IN IRELAND.

THE Forty-sixth Report of the Commissioners of Public Works in Ireland, issued within the last few days, contains a large amount of information, and some special features of national interest, which shall receive from us anon the attention they merit. Public improvements, including landed property improvements, dwellings for the labouring classes, loans for works of drainage, reclamation of land, piers, harbours, bridges, tramways, fisheries, and last though not least, the preservation of National Monuments, are a few of the subjects amongst others which are dealt with in the present report. In our next issue we will pass under review the above interests, and perhaps avail ourselves of the opportune occasion of saying a few words on the defects which characterise the management of the Board of Public Works in Ireland, as alluded to in the recently-issued Blue Books. We perceive, in glancing at the present report, that during the past year loans have been sanctioned out of the respective loan funds to the extent of £709,934, a sum considerably in advance of the previous year's operations, which amounted to £450,042. Of the above sum, £483,703 was advanced under the Public Loan Funds Act, £162,240 under the Land Improvement Act, and £62,931 under the Land Act. Among the special loans during the year we find £150,000 for the new Dublin bridges, and £20,000 to the Corporation of Dublin for the purchase of sites for artisans' dwellings.

### THE MANUFACTURE OF COAL GAS.

THE late "scare" amongst the gas companies produced by the success of the modern methods of utilising the electric light seems to have subsided; for the directors know that they have a very wide margin for the reduction of prices, and they understand that it will be many years before electric lighting can be made to altogether supersede gas. The "scare" has, however, benefited the consumer in this way, that it has made the companies more ready to appreciate the advantages offered by new methods of manufacture, and more willing to try them. At present the ruling price of gas in London is about 3s. 9d. per 1,000 cubic feet, and it is well known that such a price leaves a very handsome profit indeed—such a profit that one company last year paid 10 per cent., and added nearly £100,000 to the reserve fund. The cost of the production and the distribution of gas is now-a-days little more than the cost of separating the volatile matters of the coal, plus the expenditure on offices and distribution, which is comparatively trifling when spread over many millions of cubic feet. In other words, the cost of gas is represented by the actual expenditure of fuel, the expense of the establishment, and the interest on capital sunk; for, whereas in days gone by there were many comparatively useless pro-

ducts, the only waste now is the gas-lime, and even that is disposed of, if not at a profit, at least without loss. Without going into the details, a ton of coal yields so much gas, and requires a certain amount of fuel to effect the separation; the coke left is a marketable article in increasing demand, and the tar and ammoniacal liquor (thanks to the discoveries of modern chemistry), instead of being little better than waste products, yield a very large income. Even the retort scurf (owing to the development of the science of electricity) has become of value; so that, carefully calculating the items of cost, we have no hesitation in saying that gas could be supplied to London at 3s. 6d. per 1,000 cubic feet. While, however, the former waste products of the distillation of coal have become valuable through new discoveries, invention has been at work in other directions, and improved processes and new materials have been introduced into the manufacture of illuminating gas. One—perhaps the most important—of the new methods is at work in America, being the invention of Prof. H. W. Adams, M.D., of Astoria, New York. In this process the retorts are arranged in pairs, No. 1 of the pair being charged with coal and heated in the usual manner. Two hours afterwards retort No. 2 is charged, and its products—tar, aqueous vapour, &c.—which are given off before the temperature is reached at which good illuminating gas is evolved, are led directly into retort No. 1. On the way they are mixed with superheated steam and the vapour of petroleum, and are allowed to mingle with the gases in the now highly-heated retort No. 1. The illuminating gas thus obtained is carried off to suitable receptacles, and a fresh charge introduced into retort No. 1, the first products of which are conducted to retort No. 2, thus reversing the process in an alternate manner. The result of this arrangement is to utilise all the tar and ammoniacal liquor in the production of gas, so that, instead of obtaining 4½ cubic feet per pound of coal, Mr. Adams produces 8 cubic feet of gas from that quantity. It is stated that by this process only one-third of the usual number of retorts, and consequently only one-third of the labour, is required to produce the same quantity of gas, which is, moreover, of dazzling whiteness and brilliancy. Attempts have frequently been made to produce an illuminating gas from steam, and also from petroleum, but by combining the three—coal, steam, and petroleum—in one process, Mr. Adams appears to have solved a problem which has long puzzled inventors, and he has so much faith in it that he has obtained patents in nearly all the countries which have a law protecting inventions.—*Builders' Reporter.*

### CORRESPONDENCE.

#### IMPROVED SYSTEM OF LAYING DOWN TRAMWAYS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—As there can be little doubt that in the course of a very short time, the leading public roads of this country (in localities where the traffic is not sufficient to support a railway) will be used for the purpose of laying down tramways to be worked by steam power with noiseless locomotives, it is a matter of the first importance that a proper plan should be adopted at the outset, so as to avoid, as far as possible, the objections which belong to the present system.

Having been called upon in my official capacity as County Surveyor to report to the Grand Jury of County Down at the Assizes which have just terminated, on several projects that were brought before them by the Ulster Tramway Company, I have given the matter considerable attention, and I have come to the conclusion that the present system of laying tramways on the public roads should not be adhered to, as it interferes with the width of the road, intercepts the drainage, renders the repairs very difficult, and causes great inconvenience to

the public traffic. I have in my report to the Grand Jury, before referred to, suggested a plan which it appears to me will obviate a great many of these objections, and which is explained in the following extracts:—

"I have carefully considered the question as to the best way of laying down tramways on the public roads, so as to minimise the inconvenience that they are likely to cause, and I am clearly of opinion that except through the streets of towns, where they should be laid generally in the centre of the road, they should be made on a siding along the road, so as to leave at least from 18 to 20 feet of road clear—that is to say, generally the present width of road should not be interfered with. The tramway should be kept at the side level with the centre of the road with grooved rail, and having a water channel about 5 or 6 in. deep between it and the road; the siding to be at least 6 ft. wide, and to be curbed with stone on the edge next channel, and macadamised and maintained by the company, and the public to have free access to it. I believe any other mode of construction will prove very inconvenient. The roads are generally too narrow for the tramway to be placed in the centre, and, if placed at the sides, without a water channel between, the drainage of the road is very much interfered with, and great difficulty experienced in keeping it in order.

In the case of the Warrenpoint and Rostrevor tramway, which has been placed on the side of road without the intervention of a water channel, I need only refer to Mr. Murray's report to the Grand Jury at the Spring Assizes, 1878, in which he states—'I am sorry at not being able to give a satisfactory report of the main road from Warrenpoint to Rostrevor. Many well-founded complaints have been made of the surface condition of this road since the tramway was laid; we have made every exertion to improve it, but I fear it will be some years before the surface will be again brought back to its former average state.' If the tramways now proposed be placed on the roads in a similar manner to the Warrenpoint and Rostrevor tramway, similar results will undoubtedly take place, and the repairs will be very difficult, and great inconvenience will result.

The advantages of placing the tramway on a siding are, in my opinion, very great, and will be equally advantageous to the company and the public, especially if steam is to be the power used.

1. It leaves the whole width of the road, as at present, available for the public traffic.
2. It provides for the proper drainage of the road.
3. It gives additional width of road caused by the siding for the public use.
4. In the case of horses being frightened, they can be kept at the greatest possible distance from the tramway.
5. It saves the company the cost of paving with square setts, which would otherwise be necessary, and the cost of maintenance will be greatly reduced.

The mode of construction I have referred to can, without much difficulty, be carried out on the roads on which it is proposed to lay the tramways, by using the present unoccupied sides, where such occur, and the spaces laid off for broken stones, and by filling up grips and reducing the widths of fences; and, where necessary, taking land for widening, for which the Tramways Act gives full power. It will be necessary for the companies to provide depôts for broken stones in lieu of the spaces now used for that purpose, and to make all necessary level crossings at the junction of roads and entrances to farms and houses, and gates and pipes to be laid at intervals along and under the tramway, so as to drain the road perfectly."

The Grand Jury of County Down have approved of the proposed tramways from Downpatrick to Killough and Ardglass (length 9 miles 2 furlongs; estimated cost £23,155; engineer, John Lanyon, C.E.), subject to the modifications and alterations suggested in my report, and I observe by this day's *Belfast News-Letter* that the Grand Jury of County Antrim have approved of the proposed tramways from Portrush to the Giant's Causeway, on a similar plan, with the exception of one or two details.

There will now be an opportunity of testing the method I have proposed for laying down tramways, and I have no doubt that it will prove satisfactory, and be a great improvement on the present system.

HENRY SMYTH, C.E.

Downpatrick, 24th July, 1878.

[The above suggestions of Mr. Smyth are worthy of the consideration of all our town

boards and other road authorities. Several of the streets and roads on which there are tramway lines are in a very bad condition, and there is a general complaint from all parts of the three kingdoms as to the evils of the present system.—Ed. I. B.]

### ST. DOULAGH'S, COUNTY DUBLIN.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Permit me, through the medium of your very popular journal, to remind your readers, who may be inclined to visit the most interesting remains of Abbey, Baptistery, and Bath, at St. Doulagh's, under the auspices of the Excursion Committee of the British Association, that an able paper with several illustrations was read before the St. Patrick's Society for the Study of Archaeology, &c., some years ago, by Mr. John S. Sloane, of this city, who gave a large portion of his time and professional ability gratuitously to the repairing of the very ancient buildings, in connection with a committee composed of Lord Talbot de Malahide, the Rev. Dean Reeves, the Rev. William S. Kennedy (at that time incumbent of the church), and several other noblemen and gentlemen of Ireland and England. The St. Patrick's Society published the paper and illustrations, and I believe copies can be still had of the Rev. William Maturin, of Grangegorman, the secretary to the society. The paper treats of the subject more exhaustively than could be expected from a mere hand-book. It is not improbable that the author will visit the scene with the excursionists, and if so, they may expect much enlightenment as to the history of these unique remains of a very remote period of the Christianity of our country.

ANTIQUARIUS.

### BUILDING MADE EASY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—With your usual kindness in answering useful questions bearing upon building matters, perhaps you would be able to inform a constant reader and admirer of your publication one or two simple questions. Firstly—how much would it cost me to build a two-storey detached villa of good brick with stone dressings to doors, windows, &c.? How many rooms would you advise me to have, or how many would constitute a respectable dwelling for a retired business man of moderate income? I don't think it will be necessary for me to employ an architect, as I would be always present to instruct the builder employed, and I would be happy to employ one on your recommendation, if you have no objection.—Yours, &c.

P. L. G.

[We have every objection to be made the medium of doing an injury to the profession, and we have to assure our correspondent that building will not be made easy by the utilisation of our services in the manner sought. We wish no personal ill to our correspondent, but if we fulfilled our duty in this instance to the letter, we would have published in full our correspondent's name and address, as a warning to other "cheap Jacks" to "mend their line and sin no more."—Ed. I. B.]

### WHO WAS THE ARCHITECT OF ALDBOROUGH HOUSE?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I have made many enquiries as to who might have been the architect of Aldborough House, now, and since 1843, a barrack, and previously for many years the well-known Feinaglan Institute or public school. It was built, I know, for the Earl of Aldborough towards the latter end of the last century, but whether the builder of it was also its architect I am unable to say, as I have failed to find out its builder; though I am inclined to think the house was erected

by one or other of those well-known building firms who were extensively engaged in public works during the era of the Irish Parliament. None of the local histories of Dublin, or other works descriptive of the public buildings or private mansions of note, that I have consulted, afford any particulars as to the architect or builder of Aldborough House. Illustrations and engravings of Powerscourt House, Tyrone House, Charlemont House, and Leinster House have appeared in Pool and Cash's, and also in Malton's Views of Dublin. A view of Aldborough House could not of course appear in the former work, for it was published in 1780, but it is possible one could have appeared in Malton, for the latter work was in course of publication from 1791 till just the close of the century. None of our early present-century guides or "Pictures of Dublin," either contain any engravings of Aldborough House, or the least indication, as far as I could find, as to who was the architect or builder of the mansion in question. Perhaps, sir, some octogenarian citizen, architect, builder, or reader of your journal could answer my query. H. C. C.

### THE MACHINERY OF GAS TRADING.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I believe that as a general rule almost all gas companies insist on new customers depositing sums of money in advance for gas, varying in amount according to circumstances; it being clearly understood that the amount of such deposits are placed to the credit of the consumers, to be allowed as part payment of their accounts at the termination of their dealings. Some time since the gas consumers of Liverpool objected to the continuance of such an arrangement; and at public meetings held by them, protested against the absurdity of being thus obliged to contribute to the working capital of the gas company over £300,000.

A return of the amount of money obtained in this way by the Dublin Gas Company, and lying in their hands as capital for trading purposes, might astonish the readers of it, but an appendix to such a return, showing the number of customers, or their representatives, who, at the termination of their dealings when settling their final accounts, claimed or were allowed the amounts so obtained, would cause some unpleasant speculation. To illustrate this, permit me to bring under the notice of your readers the following instance of the cavalier fashion in which the gas company can deal with such cases.

Some time ago a working man decided on having his shop lighted with gas, and paid the gas company's official £1, a receipt for that sum "in advance for gas," being given to him. He died, but after some time his widow (as she informed me) becoming unable to afford the expensive luxury of Dublin gas, desired that the supply to her shop would be discontinued, and that she would pay the amount due, less by the amount paid in advance. The gas was cut off, but she further informed me that her offer of payment was refused, because she could not produce the receipt for the £1, it having been mislaid.

It can reasonably be supposed that any trader would only have to look over an account to ascertain if a customer had paid a sum in advance, and if so, give credit for it; and that the officials of the gas company could easily have adopted a similar method in this case. Perhaps the particular book in which the £1 in question was entered was lost from among the records of the gas company, or if forthcoming, the entry might have been "made in pencil," and in time become illegible, but whether or which, an attorney's letter was served on the poor woman, applying for payment for gas supplied "up to the time gas was withdrawn," no credit being given in it for the £1 originally paid in advance. This was followed by a process, a decree, and a seizure by bailiffs of the debtor's effects, which were carted away—a simple commonplace concatenation of circumstances, with this exception—the custom in the Recorder's Court is, that evidence on oath should be given, showing that the amount demanded was due, before a decree could be made to enforce payment of it. If such was done in this case, the peculiar respect paid to the obligation of an oath by the Corporation official during the enquiry on the public lighting of the city, before the Local Government Auditor in 1876, would seem to have been correctly imitated.

I am not aware that the former management of the Dublin Gas Companies ever ordered that their embarrassed customers should be treated in any such manner as I here relate; and anyone who reads of this specimen of sharp practice, must look upon it

with a feeling of disgust which will not be lessened by the reflection, that possibly the parties so engaged in thus oppressing an humble gas consumer, may have been "dragged up" through little better than misery themselves. JAMES KIRBY.

9, Peter's-row, July 25th. 1878.

### HOME AND FOREIGN NOTES.

Mr. J. Saunders, of York-street, has been declared contractor for the drainage of the Dean's Grange Cemetery, for the guardians of the Rathdown Union, at £360.

DEATH OF A GEOLOGIST.—The death is announced of Dr. Thomas Oldham, who was from its origination in 1850 till 1876 at the head of the Geological Survey of India.

INDIAN ARCHÆOLOGY.—The India Office will issue, in a few weeks, a collection of Pali, Sanskrit, and Old Canarese inscriptions from Western India, arranged by Mr. Fleet, B.C.S., under the direction of Mr. Burgess, Government Archæological Surveyor.

THE STANHOPE BUST.—The Earl of Stanhope has presented a marble bust of his father, the late earl, to the National Portrait Gallery. The bust is copied by H. H. Armstrong, A.R.A., from the original at Chesham, which was executed at Rome by Laurence Macdonald in 1854.

UNIVERSITY COLLEGE, LONDON.—Mr. Samuel Sharpe has promised to give £5,000 towards the building of the north wing of University College, so soon as the council are prepared to begin the work. A sum of £50,000 in all will be required to complete the extensions immediately contemplated.

INTERNATIONAL CONGRESS OF ARCHITECTS, PARIS.—The work of the Paris International Congress of Architects commenced on Monday, 29th ult., and will be carried on till the 3rd of this month. A visit to the City of Rheims will be made on to-day, ending with a dinner. Various interesting questions are being discussed.

THE BRUSSELS FINE ART EXHIBITION.—The General Exhibition of Fine Arts to be held this year in Brussels will open on August 20th and close on October 15th. It is open to all artists, foreign as well as native, to send works for exhibition; but not more than two works of the same nature can be sent by any one artist.

EXCAVATIONS.—It is reported that the Government have refused to grant £2,000, which the British Museum authorities have applied for, to carry on the excavations on the sites of Nineveh and Babylon, the reason for the refusal being the fact that such excavations may be more properly undertaken when the Euphrates and Tigris Valley Railway shall have been undertaken.

ARKLOW HARBOUR.—It is reported that the Wicklow Copper Mining Company have applied for a loan of £12,000 or upwards, for the purpose of improving this harbour. Two years since the Government offered to provide half the cost of the proposed improvement, and advance the other half by way of loan, but the proposition was declined by those interested.

A HINT TO QUARRYMEN.—Major Ford (says the *Athenæum*) has performed good service by showing that if dynamite is poured into water, the sand falls to the bottom, and the nitro-glycerine floats on the surface, and explodes with its usual violence if the temperature is slightly increased. This will explain the cause of many of the serious explosions with dynamite when used in wet holes.

NOXIOUS TRADES.—The *London Gazette* has published an order made by the Metropolitan Board of Works, under the provisions of the Slaughter Houses (Metropolis) Act of 1874, confirmed by the Local Government Board, declaring the business of a fat melter or fat extractor, "that is to say, any business in which fat is melted, rendered, extracted from any material, or remelted," to be an offensive business.

SALE OF AUTOGRAPH LETTERS.—At a recent sale in London the following prices were obtained: Bullinger, the Reformer, 3 guineas; Lord Byron to R. Hoppner, 1819, £7 5s.; Charles II., 4 guineas; W. Cowper, two letters, £2 10s. each; Fenelon, 2 guineas; St. Francois de Sales, £6 15s.; Lord E. Fitzgerald, £1 15s.; David Garrick, £2 10s.; George III., £1 10s. There was only one bid for this. The following, from Thomas Gray, brought £3 10s.—"Account of a Visit to Hartlepool," whose inhabitants live on the refuse of their own fish market, with a few potatoes and a reasonable quantity of Geneva six days in the week; Dr. Johnson to Mr. Anson, £3 5s.; Marie de Medicis, £1 10s.; Rousseau, £2; Cardinal Mazarin, £1 9s.; Voltaire, £3 4s.

**PROPOSED EXHIBITION OF WEDGWOOD WARE.**—The Liverpool Art Club propose to open an exhibition of the works of Josiah Wedgwood during the next session. To make this exhibition a useful representation of Wedgwood's productions, it has been thought advisable, so far as it is possible, to exhibit the specimens in the order in which they are described by Wedgwood himself in the various editions of his catalogue.

**THE QUEEN'S INSTITUTE, DUBLIN.**—Some months ago an application was made to the Board of Public Works for a loan of £3,000, to purchase a house, &c., for the institute. We regret to say that the Treasury are of opinion that the purpose for which the loan was sought is not considered a public work within the meaning of the Public Works Loan Act. We trust that the institute, which is a most deserving one, will meet with the assistance it needs in other directions, privately and publicly.

**A KNIGHT IN THE "ROYAL IRISH."**—There is at present serving in the ranks of the Irish Constabulary a real baronet, and with a title of an old creation, Sir Thomas Echlin, Bart. (Ireland), 1721, eldest son of Sir Ferdinand Fenton, sixth baronet, and Mary, only daughter of William Cavenagh, Esq., Grangebeg, Westmeath. The gentleman, who has recently attained the rank of sergeant, and who does his duty just like any other individual, was born in 1844, and succeeded his father last year.

**IRISH LABOUR IN PERTHSHIRE.**—The wood peeling season, which commenced in May, has now terminated. About 2,000 persons were employed in this species of industrial employment, which consisted of stripping oak and larch trees of their bark. Of the men, women, and children employed, the majority were Irish. The wages given to the men ranged from 3s. 6d. to 4s. per day, to the women, from 2s. to 2s. 6d., to boys and girls, from 1s. to 1s. 6d. It is worthy of notice that within a few years the wages of wood peelers have more than doubled, but on the other hand the price of bark has declined from 20 to 25 per cent., owing to importations.

**SEVERITY OF NEW PRISON RULE.**—At the recent assizes for County of Kildare, the Lord Chief Baron had before him a woman who pleaded guilty to the felonious possession of a sum of money. In passing sentence upon her his lordship stated he would have given her a term of imprisonment but for the severity of the new prison rules, which would oblige her to lie for the first month of her imprisonment on a plank bed! He commented strongly on the cruelty of this regulation, and intimated that he would never send a woman to prison under it, where justice permitted him to act otherwise. The sentence in the present case was that the woman be held to bail in her own surety of £20, to come up for judgment when called on, on condition that her husband would restore the £2 10s. to its rightful owner before the next assizes.

**LONDON JERRY BUILDING.**—By the passing of the Metropolis Building Acts Amendment Bill a death-blow (says a medical contemporary) has been struck to a system which has flourished a long while in London generally, but in Hackney in particular. Notwithstanding the intricacies of the building acts, the only matter that a district surveyor has hitherto had any control over has been the thickness of the brickwork and timber; the veriest rubbish might be used between the bricks, and no particular foundations were necessary. There might be a pile underneath the flooring boards in the basements; in fact, there frequently was nothing but the original clay-earth, or an artificial ground of dust-bin refuse under the floors. This will now be put a stop to. We may hope to see houses built that will be proof against wind and rain, that will have some kind of cohesive material between the courses, and be built on a proper foundation. This has been brought about by the passing of the Metropolis Management and Building Acts Amendment Act, which was promoted by the Metropolitan Board of Works. Mr. John Rantz, the chairman of the Board's Building Act Committee, represents the district which has suffered so much from building abuses, and thus there is every reason to believe the act will not be allowed to become a dead letter.

**INDIAN TIMBER.**—The Forest Department of India has forwarded native timber of all kinds to the Paris Exhibition. After the close of the exhibition some portion of the timber will be sent to Washington, and the other will be distributed in various schools of Forestry. It is stated that there are in India no less than two thousand species of wood, most of which are extremely beautiful and useful, but the timber merchants are only acquainted with one hundred species of Indian wood. The inspector-general, while acknowledging his inability to send samples of all the native timber to the Exhibition, has forwarded specimens of the principal

woods of Hindostan—which are as useful as they are ornamental. They have all been carefully classified. Six hundred samples are sent to Paris, besides three hundred and seventy which were forwarded separately. In addition to the wood there are innumerable specimens of fibres, barks, leaves, flowers, seeds, &c., which produce oil, or are useful otherwise. The samples of grain alone amount to one hundred. The inspector-general of the floral department has also forwarded specimens of the above-mentioned articles to various schools and museums, not in the United Kingdom and France alone, but also to other parts of Europe as well as to those of America, thus to attract the timber merchants of the world to India, which does not abound in ebony and sandalwood alone, but produces thousands of other valuable, useful, and ornamental woods, as well as flowers, fruits, grain, seeds, cotton, sugar cane, fibres, barks, gum, spices, drugs, and thousands of other wonders of the vegetable kingdom.

**A GUARDIAN IN THE DOCK.**—The following brings to light some further revelations of the doings of members of public bodies:—Mr. Edward Clarke, against whom a warrant had been issued at Edmonton some days since, surrendered to Inspector Gould at the Edmonton Police-station. He was taken before a full bench of magistrates, then sitting in Petty Sessions in the Edmonton County Court, and after some preliminary evidence had been given, was remanded, bail being accepted of £1,000 from himself, and £500 each from two sureties. The charge against Mr. Clarke involves fraud and forgery, and has arisen in connection with the Poor Law Union of which he was a guardian. Some two years since a committee, of which Mr. Clarke was a member, was appointed to see to the erection of a smallpox hospital, and in connection with this work a bill was sent in from Joseph Smith, which was certified as correct by Mr. Clarke, to whom a cheque for the amount was handed. This cheque was handed in to the bank, with the endorsement *James Smith*, and payment being refused, Mr. Clarke applied for another cheque, and this led to inquiries, when it was discovered that Joseph and James Smith, as well as several others who had received cheques, were without any local habitation, and, in fact appeared to be names employed by Mr. Edward Clarke in doing work himself illegally for the union. The whole matter is being investigated by a committee, and it is likely that several specific charges will be preferred against Mr. Clarke on his being brought up on remand.

#### THE MACDONNELL STATUE.

A FINE colossal statue in marble of the late Sir Alexander MacDonnell has been erected in the grounds adjoining Tyrone House, Marlborough-street. The deceased is represented in a sitting posture, the left hand holding a book, while in the right is a pencil. The pedestal, which is of veined marble, neatly moulded, stands on a base course of granite, and measures 5 ft. 7 in. by 3 ft. 7 in. On its front is the inscription:—

THE RIGHT HONOURABLE  
SIR ALEXANDER MACDONNELL, BART.,  
RESIDENT COMMISSIONER OF  
NATIONAL EDUCATION  
FROM 1839 TILL 1871.  
BORN 1794: DIED 1875.

The height of the entire is 12 ft. Mr. Thomas Farrell, R.I.A., was the sculptor. The cost was about £1,200. The ceremony of "unveiling" will take place on 13th inst.

#### TO CORRESPONDENTS.

**THE RECLAIMED ESTUARY AT FAIRVIEW.**—No doubt it is intended to utilise this filled-up area by the erection of speculative buildings. We trust that the responsible authorities will see that concrete foundations will be put in, and that an efficient house and outfall drainage will be carried out. This forewarning may be a word of place.

**ST. STEPHEN'S GREEN.**—A correspondent who writes to us about the improvements at present being carried out in this public square, must have patience. A gift horse, perhaps, should not be looked too closely after about the mouth.

**SANTAS.**—The subject will, we understand, be discussed at the forthcoming meeting of the British Association, which takes place in this city during the present month.

**CITY ORNITHOLOGY.**—Several birds of different species have a settled home in the city "all the year round"; a few others are birds of passage. Pigeons, jackdaws, sparrows, stone chatters, and swallows select our public and private buildings. They build their nests in the nooks and corners of the sculpture, and in the chimneys, &c. In our public gardens and squares there are a few varieties of birds, usually found in the country districts. The subject of our city birds would form, with its surroundings, an interesting article. The late Richard Glennon, the naturalist, of Suffolk-street, could, were he alive, discuss such a subject with interest; but our bird-stuffers of the present day are not, as a rule, naturalists, though they may be adepts at catching birds without dropping the proverbial salt upon their tails.

RECEIVED.—M. D.—T. C. S.—P. L. G.—R. H. A. (thanks).—H. S.—A Builder (yes).—R. M.—E. B.—A. &c.

#### NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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Zh n-a h-cur amac, do n

CUZHANN CUM NA ZACBILZE A CA'ZHEAD.

leabair leabair eile mar iad-ran 7a1 nioill.

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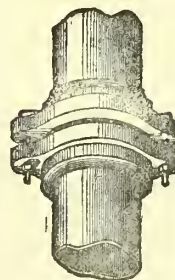
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## Contents.

|   | Page |
|---|------|
| THE IRISH BOARD OF WORKS ADMINISTRATION ..                          | 231  |
| The Corporation and its Sanitary Duties ..                          | 232  |
| Adversaria Hibernica—Literary and Technical ..                      | 233  |
| The Ventilation of Sewers .. ..                                     | 234  |
| Archæological Meetings .. ..  | 234  |
| Public Works in Ireland—First Article ..                            | 235  |
| Discharge of Sewage into the Sea .. ..                              | 236  |
| Edison's Wonderful Inventions .. ..                                 | 236  |
| New Church of SS. Peter and Paul, Kilmallock, County Limerick .. .. | 239  |
| Royal College of Surgeons—Opening of new Buildings ..               | 239  |
| Reform in the Civil Service .. ..                                   | 239  |
| Law .. ..   | 239  |
| Correspondence—   |      |
| The Cleansing of the Liffey .. ..                                   | 240  |
| Irish Engravers .. ..   | 240  |
| Trades Union Congress .. ..   | 240  |
| Twelve Jerry Builders—A Reminiscence of London ..                   | 240  |
| The British Association .. ..                                       | 240  |
| The "Orion" Gas-Oil Lamp .. ..                                      | 241  |
| Drawings at South Kensington—The Dublin School of Art .. ..         | 241  |
| The International Congress of Architects .. ..                      | 241  |
| The British Association in Dublin .. ..                             | 241  |
| The Public Health in Dublin .. ..                                   | 241  |
| Paper Building and Furniture—The Paper Exhibition, Berlin .. ..     | 242  |
| The Royal Irish Academy .. ..                                       | 242  |
| The President's Address, British Association .. ..                  | 242  |
| A Sanitary Officer Fined .. ..                                      | 242  |
| Home and Foreign Notes .. ..  | 242  |
| To Correspondents .. ..   | 243  |

## THE IRISH BUILDER.

VOL. XX.—No. 448.

THE IRISH BOARD OF WORKS  
ADMINISTRATION.

SINCE the Report of the Committee appointed to inquire into the management of the Irish Board of Works has been issued,—which we promised to more fully notice,—Col. M'Kerlie, the Chairman of the Board, has published a "Statement" in his own defence, dealing with some of the severe strictures made by the Committee of Inquiry. We will not, as we proceed, lose sight of the explanations of the Chairman of the Board, while passing under notice some of the principal defects of the Board, as made manifest by the evidence, and reported upon by the Committee. As a whole, we may intimate at this point that the evidence is of too voluminous a character to digest, so we will confine our review chiefly to a few subjects of special importance more or less entering into the field of our advocacy in these pages. Severe as may be some of the strictures of the Committee of Inquiry, yet at the very outset of their report, after hearing and weighing all the evidence adduced, they honestly make an acknowledgment in these words:—"Our inquiries were greatly facilitated by the frank, courteous, and ready manner in which the Commissioners afforded us information in every branch of their duties, and though we shall have to criticise many of the board's proceedings, we wish to take the earliest opportunity of stating that we were impressed by the thorough mastery acquired by the chairman over the varied details of his departmental work, and by the zealous and conscientious way in which he has evidently devoted himself to his duties; as well as by the able co-operation he receives from his colleagues, and by the apparent

efficiency and intelligence of the staff generally." The above admissions have their value; and it must certainly have been consolatory to the chairman and his higher colleagues to hear them, though the action of the board in several matters is censured.

Let us, however, come at once to one of the important matters where the board is taken to task in respect to the Labouring Classes' Dwellings Act of 1866, and why the Irish measure has failed. The committee say—"It may be that its advantages have not been appreciated to a greater extent, owing to the facilities given by the legislature being insufficiently known. We think that probably was the case why so few applications were received during the first six years after the Act had been passed; and we think it worth consideration whether the board might not take steps by periodical advertisement or otherwise ensure the facilities being more widely understood than they are even now. But this would not account for the amount of advances applied for being so much out of proportion to the amount granted, even allowing for the number of applications falling through by reason of the security being insufficient, as well as allowing for loans asked for being in some cases in excess of the requirements of the application." The committee thus make it patent that the Act was from the first illiberally construed, judging by the evidence brought before them. Looking to the principle that guided the board in administering the Act, the committee have no hesitation in saying that we think the board did not, until latterly, place a sufficiently liberal construction upon the Act. The applications of Mr. W. Trimble of Belfast, and Messrs. Reynolds of Dublin, are instanced as cases in which the board questioned whether an application came within the meaning of the Act, it being inferred from the board's knowledge of the applicants that they were merely induced by the easy terms offered by the Act, to borrow money from the board for speculative reasons, and not from any motive of benefitting the poorer classes. The committee hold that it was obvious that the Act was passed with a view to attract capital to a field of enterprise, not *primâ facie* likely to be of a remunerative character, irrespective of the motives of the applicants, whether they might be philanthropic, speculative, or otherwise.

Certainly we agree with the committee in thinking that the business of the Board of Works lay in seeing that the security offered by the borrower was sound, and that the plans gave good promise that the buildings would be suited to the requirements of the poor, with due regard to their comfort, convenience, and health. We must remark, however, that speculative building of a very dishonest kind has been very rife for several years past, and a little caution is necessary. Houses built by public money with the intention of supplying a public want, should be closely looked after. The wants of a neighbourhood in view of the future should be considered, and it would be also advisable to see that a low class of speculators were bound down to faithfully carry out the plans that are first approved of. We have certainly known several instances of speculators altering their plans by converting dwellings into a different class than those originally proposed, and for which money was advanced in the belief that the original plans would be faithfully carried out.

The committee say they found that the

Irish Board, in the earlier years of the operation of the Act, hesitated to entertain applications as being contrary to the Act when they were made for houses already built, or partly completed. The committee, however, think that there may be reasonable grounds for not advancing money to pay for houses already erected, because a man might borrow money merely to recoup himself for a losing speculation; and also for the reason that it is sometimes difficult to apply to the existing houses the improvements for sanitary purposes which are essential, or to ascertain the quality of the materials used. But for houses in process of construction only, the committee think the same reason for refusal to advance loans do not exist. On this subject they further remark—"Independently of the Act, which provides under sec. 8 for advances being made applicable to the 'alterations and adaptation of buildings,' as well as the purchase of land and the erection of houses, we think that in these cases, with proper precautions, there ought as a rule to be no difficulty in getting all sanitary and other conditions complied with; and it was a mistaken policy on the part of the board to refuse applications such as those of J. Thomson of Belfast, and Mr. W. Wardrop of Enniscorthy.

In justice to the board the committee say that during the last two or three years they appear to have interpreted the Act in a wider sense. The effect of the previous narrow interpretation of the Act by the board is remarked upon thus:—"But it must be remembered that the effect of withholding from the public the advantages of a statute cannot be measured by the refusal of this or that application. There has to be taken into consideration the deterrent effect that a refusal here, and a refusal there, has upon intending applicants, more especially in the case of an Act which like the 29th & 30th Vic., c. 44, was in its infancy, and so required to be construed even more liberally than if it had been in full working order. We are therefore of opinion that had the commissioners from the commencement taken a more comprehensive view of their duties under this act, greater advantages would have been derived from it."

In the "Statement" of Colonel M'Kerlie, the chairman of the Irish Board issued, as we have already stated, since the publication of the Blue Book (the chairman) submits that no illiberal spirit actuated the board, and in illustration refers to the statement made by him when under examination, and which will be found in 49 Ap. of the evidence; and he adds:—"In Trimble's case, referred to in paragraph 24 [Report], I would here beg to add to the evidence I gave on the subject—which was to the effect that the loan was declined on the ground that the town of Belfast being already amply provided, and indeed overstocked with dwellings of the same inferior class as those Mr. Trimble proposed to erect, the want which it was the object of the act to meet did not exist—that had aid towards the erecting a really improved class of dwellings been sought for, the board would unhesitatingly have recommended the Treasury to grant it." In respect to Reynolds's case the chairman also refers to the explanations given in page 51 of Report, and adds:—"With regard also to the comparison between the amounts applied for and lent in England and Ireland, I would beg to point out that the cause of the disproportion in the latter country was the failure of a large

number of the applicants to comply with the legal requirements; and if to any cause connected with the obtaining of loans, their paucity is to be attributed, I would suggest whether to that difficulty the result might not be more properly attributed. Under any circumstances the increased facilities subsequently given, as referred to in paragraph 26 do not appear to have induced a greater number of applicants to come forward."

These subsequent explanations of Colonel M'Kerlie are entitled to favourable consideration. We candidly say this much, though the evidence as given first points to a different conclusion. That dissatisfaction should exist on the part of some applicants, no wonder need be expressed, seeing that there were some difficulties in the way not of the board's own creation. Apart, however, there were other causes inherent to the action of the board admitting, of course, of more than one construction, arising either from an illiberal spirit, or an error of judgment. As we proceed with some other illustrations of the action of the board in this and other services fuller evidence will be afforded for independent minds coming to conclusions whether the indictment of the Committee of Inquiry has been sustained or will require to be modified.

The Labourers' Dwellings Act, as it stands at present, is intended for urban districts, and designed to promote "the health, comfort, and welfare of the inhabitants of towns and populous cities," but the committee justly hold that the need of labourers' dwellings may be quite as much felt in other localities, where the provisions offered under the Land Improvement Act may not be applicable. They suggest that the Commissioners should be empowered under the Act of 1866 to advance money towards building houses for working men, provided the want is clearly established in other places besides those in or near a town, no matter how small may be the number of the houses required. We next come to a matter of importance: the insufficient security that exists against too good a class of houses being provided under the act. The committee do not consider that sufficient security exists against there being built under the provisions of the act, houses of too high a class, or against the conversion of labourers' dwellings after their completion into residences, suited only for persons in a higher station of life than those whom the Legislature intended to benefit. This possible abuse was anticipated by the Treasury in 1874, but the Board of Works at that time expressed its doubts as to any security against such evil being practicable. Hard and fast lines are, of course, difficult to draw, as a great deal depends upon the class of labourers or workmen, the rate of wages current, and other circumstances. Those who speculate on good return for their money build accordingly; so we have in our midst instances of labourers' and workmen's dwellings, with a rental far above the capacities of the general workman to meet. In consequence of this we have labourers' and artisans' dwellings built by companies, inhabited by a class of persons who are not, ordinarily speaking, workmen.

From information obtained through the Commissioners of Valuation, the Committee of Inquiry are inclined to think that 4s. a-week or £10 8s. a-year may be set down as the rent, generally speaking, a labourer or artisan living in urban districts may expect

to have to pay, and that even in the most expensive districts a rent of 6s. a-week or £15 12s. a-year should be the *maximum*. In a foot-note in relation to these rentals, the committee say in their Report that their remarks as to the rent of labourers' houses are confirmed by some figures which they obtained from the Dublin Artisans' Dwellings Company. They were informed that of houses completed by the above, forty-three were in occupation, built at an average cost of about £120 each, which are let at an average of 5s. 2d. a-week. If we are not mistaken, further inquiries would show that the rents of some of the houses built by the above company are much higher than that stated to the committee; but that is a matter which we may refer to on another occasion. The several houses built by Sir John Arnott and others, between the North City Basin and Dominick-street, are instanced as ones which certainly afford a strange contrast. Some of these are occupied at a rent of 8s. 4d. a-week or £20 a-year, and some more at as high a rent as 11s. 8d. a-week or £28 a-year. The committee very properly hold that these houses are beyond the means of persons within the intention of the act, and they say—"we should argue from this that the consideration of the class of houses built under the act is liable to be insufficiently regarded, not from any want of vigilance on the part of the Board of Works, but because they have not sufficient hold over the borrowers." On this head the committee suggest that applicants for advances should be required as they are by the Public Works Loan Commissioners in England to enter into a covenant that the houses will (except with the express permission of the board) be used *bonâ fide* for labouring classes, and further that if the clerk of works of that locality should report that the covenant is not kept, the commissioners should have the power of compelling repayment of the money lent, instead of allowing it to remain out for the full term of forty years, or other periods agreed on. We fully endorse these recommendations, for reasons already stated, and for others that are obvious to those who are acquainted with dishonest speculative building practices.

The other chief matter dealt with by the committee under the head of Labourers' Dwellings is the architect of the Board of Works' connexion with the Building Society incidentally alluded to in our previous issue. We must defer for the present entering upon this part of the report, or reviewing the censure pronounced or implied as against the architect, as also the defects of his department under the board. In our next we will take up the subject where we left off; and to whatever divisions of the report we chose to confine our remarks we will not ignore the supplementary "Statement" of the Chairman of the Irish Board of Works.

#### THE CORPORATION AND ITS SANITARY DUTIES.

At a late meeting the Corporation has passed a resolution to attain an entirely different object than what the resolution would seem to involve. Their conduct is somewhat akin to that which describes a man cutting off his nose to please his face. The following is the resolution:—

"That owing to the quashing of the borough rate, and the insufficiency of the borough fund to meet the demands on it in consequence of sanitary and

other expenditure; resolved that it be an order to the Finance and Lease Committee to cease all expenditure out of the borough fund, not legally obligatory; that it be an order to the Finance and Lease Committee to prepare forthwith a statement of the liabilities of the borough fund with a view to their discharge so soon as funds admit; and that it be an order to the Finance Committee to invest to a separate account and keep intact the money received on account of the borough rate and to make good any sums expended out of the borough fund; and that it be a further order that they prepare a statement of the assets and liabilities of the borough fund for the information of the council."

Now the quashing of the new borough rate in the present instance was a quite proper proceeding on the part of the law authorities, and it is a matter of regret to the ratepayers that other former measures in past years were not also quashed, as it would have led to habits of economy, and prevented a wanton waste of public moneys. No one will object to see the Corporation, although acting under compulsion and against its will, retrenching its expenses; but while doing a compulsory duty, the Municipal Council aims at committing a public wrong. It hopes and endeavours to alarm the citizens by pleading insufficiency of funds to carry out its sanitary duties, and tries to throw upon others the consequences that may result from leaving sanitary work undone. If bankruptcy stares a merchant in the face, he begins at once, if he is an honest man, to cut down his household expenses, so far as these relate to luxuries or things that may be dispensed with, until better times return. If he has too many servants he reduces their number, or the salaries. He will not, on the other hand, if illness, small-pox, fever, or other diseases are in his house, and his wife or children stricken down, neglect to send for the doctor or procure for them the needed medical attendance their cases may require.

It is clear to every one that knows aught about the various offices, appointments, salaries, &c., of the Corporation that a great reform and a great retrenchment of expenses could take place, apart altogether from any consideration of the alleged difficulties appertaining to the quashing of the new borough rate. It is the same thing whether the public are told through the mouth of the Public Health Committee or the Corporation what sanitary work will or will not be done in consequence of the quashing of the borough rate, for the Corporation is primarily responsible for neglect of duty in its departments.

The Public Health Committee is reported to have resolved that a sub-committee be appointed to "consider how the expenditure can be best reduced forthwith, in the meantime notice of removal and discontinuance of salary to be given to every member of the sanitary staff in formal manner, the secretary including himself. Hospital cabs to be discontinued; the Local Government Board to be notified in the hope that they may be able to make provisions which the committee cannot to obviate the inconvenience thus caused." It is not long since the Corporation narrowly escaped suffering the humiliation of having its management put in commission; and its present action, taken in connection with other of its mischievous doings, may lead with more certainty to that commission which was so much feared. Certain duties devolve upon the Local Government Board, and it possesses well-defined powers in sanitary matters. We hope no serious epidemic outbreak or no great increase in the mortality returns will be evident in consequence of the

Corporation neglecting to carry out its sanitary duties. If such should unfortunately happen, we trust that the Local Government Board will enforce its powers, and no doubt need be entertained but that the law and public opinion will thoroughly support them in their action.

### ADVERSARIA HIBERNICA,

LITERARY AND TECHNICAL.

A WALK lately through the woe-begone Liberties gave rise in our mind to a train of reflections concerning that once celebrated manufacturing centre of the South City. Long years, however, ere we entered upon the world of Dublin life, decay had rapidly set in, and but a few of the old manufacturing firms remained. A few of these we remembered as still existing in our boyhood days, but for many years they are only but a memory of the past. The octogenarian resident or "oldest inhabitant" in quarters we visited told a tale of once busy times, and mournfully shook his head as if all hope had departed with the past. Men of seventy and eighty summers, whose fathers and grandfathers before them were engaged in those manufactures that give blood and bone to the capital and prosperity to the country, may well be pardoned for speaking strongly and feeling strongly on interests which, in a manner, were personal to them. A man can no more forget his trade or the industrial pursuits through which his family once gained distinction, than he can forget his own name and identity, no matter what reverse in life may overtake him. But let us appeal from personal history to historical evidence.

In 1796—a short while before the Act of Union—the manufactures of Dublin, according to all published accounts, were considerable, and the importation of Manchester cotton goods, muslins, cloths, and glass were lessening every day. For three years ending 1773 there were 209,222 drinking glasses imported; for three years ending in 1794 only 2,648 appeared in the imports—indicating a decrease in the importation and an increase in the home manufacture. In 1796, in the Earl of Meath's Liberty (commonly called the Dublin Liberties), the woollen and worsted were wrought to a large extent, and the silk manufacture (which was confined to the Dublin capital) was of great importance. Damasks and lustrings were turned out in great perfection, and the handkerchiefs were superior not only to the English manufacture, but unequalled by the Continental. The tabinets and poplins—still admired abroad and at home (now a mere remnant of a great Dublin trade)—were at the period we are speaking of remarkable for the superior taste and beauty that distinguished their manufacture. They had then become articles of extensive exportation. The cotton manufacture, too, had arrived at great perfection, and, as a native writer of the time remarked, "proving that there is a fund of ingenuity and industry in the kingdom equal to any undertaking, who fostered by a patriot legislature, and encouraged by public spirit! Who that has a spark of it will refuse to give bread in this day to our numerous poor?" Comparing the imports of cotton, wool, and cotton yarn for several years, it was concluded that the cotton manufacture had taken deep root at the time in this country. In the week ending 19th December, 1795, there were imported into Dublin 21,068 pounds' weight of raw and organised silk, to be manufactured here, which gave employment to a large number of people.

¶ The population of the country during the era of the Irish Parliament (1782-1800) is worth noting in connection with our subject. In 1785 it was returned at 2,845,392 persons, and in 1792 at 4,088,226. Even allowing for an imperfect census return at the time, the above figures show a great increase of population in a few years. Before the period which we are dealing with, the trade of Dublin chiefly consisted in the importation of foreign

goods, but as soon as the restrictions on woollens, &c., were removed, the export trade increased. As far back as 1713, the export of linen cloth from Ireland was only 1,819,816 yards, but in 1787 it had increased to 30,728,725 yards, the greater portion of which was shipped from Dublin and Belfast. Everything was done that could be done by the Parliament of the sister kingdom to discourage the woollen manufacture of this country. By prohibitory acts the Irish woollen trade was crushed almost out of existence, Irish woollens being prevented from being exported abroad for long years, and only into England subject to heavy imposts. When liberty was at last obtained for Ireland to export, her trade was crippled, and England had most cruelly obtained the monopoly she long sought for. The linen trade, forced upon Ireland in a manner, became a great industry—greater than could ever have been anticipated, thanks to native energy, enterprise, and skill. The history of the Irish linen trade is full of suggestive illustrations, but it is not our province here to enter into details.

In Ferrar's "Tour to Bellevue," County Wicklow, in 1796, the seat of Peter La Touche, he gives us some details of the horticultural and gardening operations carried out in connection with La Touche's seat. Besides a view of the house and grounds, we have "A View of the hot-house and green-house at Bellevue." The chapter descriptive of the plants cultivated and the gardening matters carried on at Bellevue near to the close of the last century possesses some interest, as it affords a little insight into the state of gardening at the time. We must, however, observe that Ferrar's "Tour to Bellevue" is full of eulogy of the La Touche family and others. In saying this, we nowise desire to ignore the services done by the La Touches to the cause of charity. In his "View of Dublin," and in his "Tour from Dublin to London" also, Ferrar does not sufficiently discriminate, and he is often very lavish in his praise. If he was peculiarly in need of a patron, praise or even adulation might be expected from writers in his time; but the author of the "History of Limerick" was, we believe, somewhat independent, and was nowise a "poor author."

But to return. Speaking of Bellevue, Ferrar writes:—"The green-houses and hot-houses now claim our attention. From Mr. La Touche's dressing-room, containing many very good portraits and paintings, designed and furnished with skilful taste and elegance, we entered a beautiful conservatory, passing on the right hand a richly ornamented bath-room. The conservatory is two hundred and sixty-four feet in length, with a handsome walk in the middle. On each side of this delightful walk is planted a variety of exotic plants, natives of Asia, Africa, and America. Above the border, on the south side, is a flue for warming the house in winter, the entire length of which is covered with rare plants in pots, which form the *tout ensemble*, and clothes the whole with unequalled taste and neatness. Travellers agree *nem. con.* in saying that it far surpasses in health and vigour any group of foreign plants to be found in Ireland. . . . The apparatus of glass work, of which we have given an engraved view, cost above three thousand pounds, and we were not a little surprised when we were informed it is only ten years since this amazing work was commenced, and the outline nearly finished by a Mr. Shanley, a native of Ireland, and an ingenious, honest man, deservedly esteemed for his good natural talents, whose death was a public loss."

The Bellevue collection of plants appears to have been pretty numerous, and several of those which were considered curious for their size, quick growth, and rarity at the period are noticed by Ferrar. We will give his own words:—"A plant of the *ceratonia edulis* carob or locust tree, which covers twenty feet of wall, remarkable for being the fruit on which St. John was providently fed in the wilderness; a geranium, otto of roses, sixteen

feet, ditto; a myriacæ quercifolia, or oak-leaved, candle-berried myrtle, ten feet ditto; fuschia coccinea, scarlet flowered, sixteen feet, ditto; a geranium cordifolium or heart-leaved crane's bill, twenty-four feet, ditto; with many others, which have grown prodigiously in such a short space of time. A superb orangery next offered its blooming fruit to our view. It is erected in a square form, planted in 1789, with orange trees in the centre. The northern part covered with fig trees and cherries in the angles, intermixed with many curious plants in pots; and in a border on the south-east and western sides are mignonettes, sweet peas and lupins, in bloom in the month of March; even mignionette all the year."

Next we have described an extensive and lofty peach-house in full bearing, "sixty feet in length and eighteen in breadth, the flues of which are also covered with uncommon and enrious exotic plants." A splendid vinery comes next, containing fifteen sorts of choice grapes. "The vinery is forty-two feet in length and twenty-four in breadth, the back in the highest part, twenty-three feet." This house contains a large cistern, which collects for the use of the house all the water falling from the roof—"an useful and good contrivance." The grand conservatory adjoining the vinery is described "of an oval form, nearly forty feet long, twenty-four broad, and twenty in height. The shell altogether has much the resemblance of the hull of a large ship, the southern and north ends being higher than the middle. The roof and sides are glazed, and finished at a very considerable expense." The following were some of the plants in the Bellevue conservatory in 1796—geranium zonale, a zone-marked crane-bill, 18 ft. high; jasminum azoricum, 20 ft. high, interspersed with Indian climber; dolichos lignosus, intermingled with foreign plants; American and African evergreens; the jasminum oederatissimum, malva capensis, rhus fomentosum, rhus lucidum, and geranium cucullatum or hollow-leaved crane's-bill. The last plant was described as 16 ft. high, its stem measuring 18 in. in circumference; the borassus flabellifer, or fan-leaved palm; the phoenix dactylifera, or date-bearing palm, and others.

*Apropos* to the above, the details of the pineries, vineries, peach-houses, cherry-houses, and other houses existing at Bellevue, and as noticed by Ferrar, would be too long for our "Notes." The flowers and fruits cultivated at Bellevue at the close of the eighteenth century were equal in beauty and rarity to those cultivated in noblemen's gardens in England. The forcing-houses at Bellevue, on an improved plan, were erected in 1791 by "Mr. Michael Ponnick, the gardener, to whom the author is indebted for much interesting and useful information. Bellevue is a striking proof that he is ingenious, laborious, and extremely skilful in his profession. He has also a natural taste for poetry, having published some good descriptions of Bellevue in the *Hibernian Magazine* for June, 1794, October, 1794, and for May, 1795."

Several Irish and Dublin practising architects appear to have been employed by the La Touche family at Bellevue, and, through their recommendation, in other places; but of these architects and their works we will speak on another occasion. H.

AN EXPLANATION.—The Naas Town Commissioners had before them the alleged breach of contract by Mr. R. C. Anderson, in supplying a delph top to a wash-hand stand in the town-hall, instead of a marble one. It turned out that the one supplied (a more expensive one) had been selected by Mr. Brett, who had acted as architect. After the reading of a number of letters in explanation, and remarks by some of the members, the following resolution was passed:—"That having read Mr. Brett's certificate as to the performance of Mr. Anderson's contract for the fitting up of pump, water-closet, and lavatory in the town-hall, and also of Mr. Anderson's letter thereon, we are of opinion that Mr. Anderson has satisfactorily performed his contract."

## THE VENTILATION OF SEWERS.

IN his instructive paper, "Further Remarks on the Ventilation of Sewers," Mr. G. B. Ellice-Clark, C.E., of the Association of Municipal and Sanitary Engineers and Surveyors, concludes thus:—"The best method of ventilating sewers, if practicable, is to have them open. If all sewers could be open impervious conduits, no such gases as are now found would exist, the air in the sewers being brought into a similar condition to that of the surrounding atmosphere, as has been shown, and the requisite changes to produce organic matter would be absent. If engineers see their way to have open sewers practicable, the question ends, and when designing them the nearer they attain this the nearer have they solved the problem. What is the minimum amount of atmospheric air required to ventilate any given sewer cannot be ascertained by a formula, but an approximate indication may be drawn from observations made in a sewer 300 yards in length (3 ft. 9 in. by 2 ft. 3 in.), where the ventilators were 225 ft. apart, having an open area of 20 ft., this amount of ventilation proving unsuccessful either in permanently lowering the temperature or reducing the humidity of the air. The ventilators having been increased to ten in number, with an area of 46 ft., reduced the temperature to a mean of 51.5°, and the dew point 1° less than formerly." This last deduction or conclusion of Mr. Ellice-Clark from his own experiences, as well as other deductions in his paper, are worthy of attentive consideration on such a vitally important matter as the ventilation of our public sewers. We fear, however, that neither engineers in general nor the thoughtful portion of the public in particular will be able with their present knowledge to see their way or agree that it is practicable to have our sewers open. We thoroughly agree that the greater the ventilation the better, wherever it can be carried out; but open sewers, as proposed, would, we fear, be productive of other evils—nay, several evils which need not be specified, as they are obvious, which it would be well to consider beforehand. Sewer gases are deadly, and destructive of life; and we hardly see our way to elongated open sewers that would not become nuisances.

## ARCHÆOLOGICAL MEETINGS.

SEVERAL of the archæological bodies in the sister kingdom have been busy for some days past in holding meetings, making excursions, and listening to papers being read of historical interest. The thirty-fifth Annual Congress of the Royal Archæological Institute of Great Britain and Ireland was opened at Northampton on the 30th ult., at the Town Hall. The town clerk read a brief address, and Lord Talbot de Malahide, President of the Institute, thanked the citizens for their welcome. The Archdeacon of Northampton presented addresses of welcome respectively from the clergy of Northampton and neighbourhood, and from the Architectural Society of the Archdeacons of Northampton and Oakham. Lord Talbot de Malahide briefly responded, and then vacated the chair in favour of the Rev. Lord Alwyne Compton, the president of the meeting, who proceeded to read his very interesting inaugural address. After touching upon local matters, he referred to church restoration, the Society for the Preservation of Ancient Monuments, and the criticism its action gave rise to recently. His lordship, before the conclusion of his address, advocated the union of the long divided bodies of the Royal Archæological Institute and the Association. After the conclusion of the meeting the members and visitors proceeded to Gold-street Lecture Hall, where they were entertained at luncheon by the Mayor and Corporation. St. Peter's Church was subsequently visited by several of the members, and its history and architecture described by Mr. J. H. Parker. The castle remains were next examined, and then

followed a visit to "Danes' Camp," Huntsbury Hill, and Queen Eleanor's Cross. In the evening the members met at the Town Hall, when Dr. Evans, F.R.S., President of the Section of Antiquities, gave an exhaustive *resumé* of the history of the county. The Rev. R. S. Baker read a paper which attracted attention on "The Nene Valley as a Roman Frontier," in which was discussed the origin of the name of Northampton, or as anciently spelled, Northantone. An interesting discussion followed the reading of the paper.

On Wednesday visits were made to Harlestone Church, Althorp Park, Brington Church, Holdenby, Spratton Church, and Brixworth Church, the latter building being one of considerable interest, and leading to discussion. A *conversazione* was held in the evening. In the course of the proceedings Mr. E. Law, architect, read a paper on Queen Eleanor's Cross, dealing in the course of it with the restorations of 1713, 1762, and 1836.

On Thursday morning the annual meeting was held, after which the members left by rail for Wellingborough *en route* to Irchester. Rushden Church, and the Grand Collegiate Church of Higham Ferrers were next visited. The interior of the latter building is rich in brasses, heraldry, stalls, parcloes, and tile pavements. After luncheon the party divided—No. 1 proceeding in the direction of Raunds, and No. 2 to the railway station for Thrapston; the former examined at Raunds a fine massive early English tower, with a singular pedimental set-off. Finedon Church was next visited, and after some hospitalities at the Vicarage, the party left for Higham Ferrers, where they were rejoined by party No. 2, who had spent a pleasant evening in the neighbourhood of Thrapston. Before proceeding homewards to Northampton, Drayton House and grounds were visited, and hospitalities partaken.

In the same week that the above congress was opened, the annual meeting of the Kent Archæological Society was held at Bromley. The opening meeting took place at the offices of the Bromley Local Board; the Earl of Amherst, President of the Society, in the chair. The Rev. W. A. Scott, hon. secretary, read the twenty-first annual report, which stated that during the last twelve months 51 new members had joined, and that 15 candidates, among whom was the Bishop of Rochester, now awaited election. Several visits were made on Wednesday and Thursday to places and buildings of historical interest in the County of Kent.

In the same week as the above the third annual meeting of the Bristol and Gloucestershire Archæological Society opened at the Guildhall, Bristol. The society now numbers 512 members. After the general business meeting of the members and associates had taken place, Sir William Guise, Bart., introduced Mr. Christopher J. Thomas, who had been elected by the council as Earl Bathurst's successor in the presidency of the council. Mr. Thomas then proceeded to deliver the opening address. After luncheon, provided by the Mayor, the visiting commenced, St. Mary Redcliff Church (restored by Mr. George Godwin several years ago), St. John's Hospital and Hermitage, Temple Church, and the Crypt of St. Nicholas being visited in succession. An evening meeting for reading papers was held in the lecture theatre of the Museum and Library. Papers were read by Sir J. Maclean, F.S.A., on "Elmore and the Guise Family," and by Mr. Thomas Kerslake, on the "Historical First Cause of St. Werburgh's Church." Dr. Beddoe next read a paper on "the Craniology of the Interments at St. Werburgh's." On Wednesday the society visited Westbury, Henbury, Blaize Castle, and Almondsbury. In the evening a *conversazione* was held in the lecture theatre. Mr. Alderman Fox read an interesting paper on "The Ancient Guilds of Bristol." The other papers were "The Ancient Privileges of the Bristol Freemen,"

by Mr. J. F. Nicholls; "The Manor of Clifton," read by Mr. Jacques, on behalf of Mr. A. S. Ellis; "The Roman Remains at Berkeley," read by Mr. J. F. Nicholls, on behalf of Mr. Irvine; "The History of the Bristol Portrait of Sebastian Cabot," by Mr. George.

On Thursday, August 1, the third day of the meeting, the time was spent in Bristol. The society met at the Mayor's Chapel, when a paper on the building was read by Mr. J. Taylor. The cathedral was inspected, and Mr. R. J. King read a paper on the architectural and other features of the building. All Saints' Church was next examined, and afterwards the Corporation records and insignia, some explanatory and descriptive remarks being made by Mr. J. F. Nicholls. Visits to other buildings in the town followed, and on a visit to the Castle an interesting paper on that building was read by Mr. J. F. Nicholls; at the Blackfriars a paper was read by Mr. Taylor on "The Dominicans in Bristol." In the evening the Mayor of Bristol entertained a very numerous party to dinner at the Mansion House.

The concluding meeting of the society was held on Friday morning at the Museum and Library. Several resolutions conveying votes of thanks to the Mayor and Dean and others who promoted the success of the meeting were passed. It was resolved that Cheltenham be the place of next year's meeting.

The summer meeting of the Leicestershire Architectural and Archæological Society was held at Cambridge. The whole of the arrangements were undertaken and successfully carried out by the Rev. S. S. Lewis, F.S.A., honorary secretary of the Cambridge Antiquarian Society. The members and friends of the society met at the University Arms Hotel, and the various collections in the Fitzwilliam Museum were visited, under the conduct of the director, Professor Colvin. After luncheon, the chapel, hall, library, &c., of Peterhouse were examined, under the escort of the rev. the Master. Then followed visits to St. Mary-the-Less, Queen's, the College of Erasmus, St. Catharine's College, the library of Corpus Christi College, and the ninth-century and restored Church of St. Benedict.

On the second day visits were made to Gonville and Caius College, Trinity Hall, and Great St. Mary's Church, and several adjoining buildings. The Rev. Professor Mayor and Professor C. C. Babington gave a lucid history of the architecture of St. John's College in its various stages, and the new chapel by Sir Gilbert Scott, and of its predecessor. After luncheon, the most notable books and engravings in the Pepysian Library were examined; and, after viewing some early traces of old Cambrorum and the later fortifications of Castle Hill, the visitors inspected the early Norman church of St. Peter and that of St. Giles.

On the 27th ult. a party of the members of the Derbyshire Archæological and Natural History Society visited Lichfield Cathedral, and were conducted over the edifice by the dean, Dr. Bickersteth, who described the past of the building, and what has been done towards its restoration during late years. In the afternoon the party assembled at the entrance of the Lady Chapel for the purpose of hearing some remarks by Bishop Abraham on "The Shrine of St. Chad." Mr. J. C. Cox next read a paper on "The Mortuary Chapels of the Cathedral," which are to be restored in memory of Bishop Selwyn.

As already announced, the Thirty-third Congress of the British Archæological Association will be held at Wisbeach, commencing on Monday, the 19th inst., and ending at Cambridge on Tuesday, the 27th, under the presidency of the Earl of Hardwicke. Visits will be paid to Ely Cathedral, Thorney and Crewland Abbeys, Castle Rising, King's Lynn, Myddleton Tower, Sandringham, and other places of interest in the district.

PUBLIC WORKS IN IRELAND.\*

FIRST ARTICLE.

HAVING already incidentally alluded to the issue of this report and the late inquiry into the administration of the board (which we may deal with in a separate article), we will now proceed to pass under review some of the more prominent interests watched over by the board, and which particularly come under the scope of our advocacy. We are glad to see that the amount allocated to labourers' dwellings in towns has considerably increased—£23,614, being £12,600 over the former year. This must be taken as a desire on the part of the public to more fully avail themselves of the provisions of the act. To make the act, however, what the Legislature intended in its operations, it will be necessary for the board to see that the houses, whether built by speculators or not, are suitable, healthy, and well-constructed. In regard to speculators particularly, it will be essential to see that the act is not availed of to solely benefit themselves, and to erect a class of houses which may afterwards be converted, with slight modifications, into dwellings fitted for a higher class of tenants.

The loans for sanitary purposes were 26 in number, amounting to £42,180. These vary very little from the previous year's sanctions. Of these loans, 9, absorbing £13,593, are for sewerage works, and 17 for water works, amounting to £28,587. Under the subdivisions of Arterial Drainage under the Act 26 & 27 Vic., c. 88—an act which enables local district boards of works to undertake these works of improvement,—only 2 works are reported as commenced during the late year—the Blackwater, in the County Cavan, at an estimated cost of £2,000; and the Laracor, in the County Meath, at a cost of £5,500; but in the same year loans have been made to districts in progress on supplemental estimates to the amount of £18,841. Since the passing of the above important act, 34 districts have been undertaken under its provisions. The works of 26 have been completed at a cost of £208,731, and there are 8 still in progress, at an estimated cost of £169,236, making a total of £377,967.

Under the Irish Reproductive Loan Act numerous small loans are made to fishermen. The arrangements made by the board to facilitate its administration under this act have been in active operation for three years. The board state that it is enabled under these arrangements, and without any expense to the State or to the fund, to carry out and complete numerous loans with an humble class of people in some of the most remote parts of the country, and to secure their punctual repayments. Since the passing of the act 811 advances on loan have been made; and as two persons are concerned generally in each loan, this represents an assistance to 1,620 persons. The total amount advanced to the 31st March this year was £15,239.

Two of the maritime counties—Limerick and Leitrim—it appears by the tables, have not availed themselves of the funds, and the board say that this arises from the fact that Limerick is connected with the sea only by the River Shannon, and that Leitrim has a very small seaboard, so that probably there are scarcely any sea-coast fishermen residing in either county. But, on the other hand,

the commissioners of the board are unable to explain the disinclination of the seafaring population of Kerry and Sligo to fully avail themselves of the provisions of the act. The former county (£2,600) only availed itself to the extent of 7 small loans, amounting to £144; and the latter county only took one-half of the sum allocated to it for the year. The counties of Clare, Cork, Galway, and Mayo availed themselves to the full extent of their allocations. We would like to see these fishery loans more fully availed of, for the fishery interest, if fully developed, would add greatly to the material prosperity of the country. No applications for loans were received by the board from the non-maritime counties other than fishery loans.

It is worthy of remark in connection with the operations of the Irish Reproductive Loan Act, by which the interests of our small fishermen are signally served, the commissioners cheerfully express the obligations they are under to the clergy, both Roman Catholic and Protestant, residing in the counties in which these loans are made, for the valuable assistance they have given on all occasions to the board in carrying out so many troublesome loan transactions.

Under the heading of Public Buildings, new works and repairs, and maintenance, we find at Passage East, County Waterford, a new office has been constructed for the Customs examining officer at that station. The new Post-office at Cork is not yet finished, though fastly approaching completion. At Howth, the old Martello tower has been fitted up as a telegraph cable store and office. Constabulary buildings include nothing new in the Dublin district, save some cooking appliances at the dépôt, Phoenix Park. A new barrack has been erected at Dunfanaghy, County Donegal. Considerable alterations are in progress at Ballyjamesduff Constabulary Barracks, County Cavan; and improvements are being made at William-street Barrack, Limerick. The Metropolitan Police buildings include an additional cell at Newmarket Station, a ball-alley at Manor-street Barrack, and at Donnybrook a bath-room and cleaning shed. At the Royal Hospital, Kilmarnham, accommodation has been provided for religious worship for the Roman Catholic in-pensioners. At the Royal Hibernian Military School works are in progress for enlarging the Roman Catholic chapel. At the Ordnance Survey Office, Mountjoy Barracks, Phoenix Park, the fittings and fixtures, together with the tables required for the new printing office, have been all provided, and the work connected with them completed; and at the canteen additional accommodation has been provided. New coastguard stations have been completed during the year at Annagassen, County Louth; Doohama, County Mayo; Knockalla, County Donegal; Mizen Head, County Wexford; Newcastle, County Down; Tara, County Down; Torr Head, County Antrim; and Rosslare, County Wexford. Works are in progress at the following stations:—Ballywalter, County Down; Curracloe, County Wexford; Greenore, County Louth; Howe Strand, County Cork; Ringabella, County Cork; Rossmoney, County Mayo; and Ventry, County Kerry. At the Phoenix Park, Dublin, the necessary works for the conservancy of the grounds have been attended to, including the keeper's and constable's lodges, &c. The piece of ground under which the railway tunnel was recently constructed has been added to the People's

Gardens, and brought under cultivation, and the terraces in connection with the Wellington Testimonial have been completed and the approaches improved.

In connection with the Queen's Colleges, besides repair and maintenance, the works of extension and improvement for the School of Anatomy at Cork are sufficiently forward to admit of their being available for the classes of 1877-8. The rest of the building is stated to be in an advanced state, and the necessary fittings in hands.

The works of progress and completion carried out during the past year at 37 ordinary literary National school-houses involve a sum of £10,625 odd, to which the board paid as grants two-thirds, the remaining one-third being made up by local persons interested in the schools. The various works of addition or enlargement have been effected at 23 ordinary literary National schools, at a total cost of £1,519 odd, the board paying two-thirds, the remaining third being contributed locally by persons interested. Independent of the above outlay, the board have expended in new works and alterations, repairing and maintaining the Metropolitan (or Central) Model School buildings, the District Model, Minor Model, and Model Agricultural schools, the sum of £11,036 odd, and a further sum of £1,382 odd for furniture for these buildings; and in the ordinary literary National schools in charge of the board a sum of £2,293 odd in maintenance and repair. Thirteen grants in aid of building residences for teachers of vested National school-houses were made during the year, amounting to £1,397 odd. Under the National School Teachers' Residences Acts 25 applications were made during the year, amounting to £5,561; but only 13 were sanctioned, amounting to £2,865. The remainder are stated to be awaiting the compliance of the applicants with certain conditions required by the act under the Treasury regulations.

The Labouring Classes' Lodging Houses and Dwellings Act, already alluded to, show 18 applications as having been received by the board, 8 loans only having been decided for the erection, &c., of 272 dwellings. Under the acts for "Limited Owners' Residences" absolute orders have been made to the extent of the value of the work executed in the following cases:—Henry Bruen, Esq., M.P., additions to Oak Park Mansion, County Carlow; Mr. Pauline Grattan Bellew, erection of mansion, Dunratty Estate, Queen's County; D. B. M. Baird, Esq., erection of mansion, Newtown Stewart Estate, County Tyrone; the Earl of Kenmare, erection of mansion, Kenmare Estate, County Kerry; and the Earl of Wicklow, improvement to mansion, Shelton Abbey Estate, County Wicklow.

Re land improvement the applications were 278, the total sums issued amounting to £121,340, being an excess in applications over any year since 1851, and nearly equal in amount to the sum issued last year, which sum has been already reported as larger than any advanced in the preceding twenty-four years. During the year operations have been commenced under 227 new loans—Drainage and other land works, 83 loans; amount sanctioned, £61,495. Farm buildings, 104 loans; amount sanctioned, £67,180. Labourers' dwellings, 40 loans; amount sanctioned, 25,930. Loans in connection with this service have also been made in pursuance to the Act 38 & 39 Vic. in aid of

\* "The Fifty-sixth Report from the Commissioners of Public Works in Ireland." &c. Dublin: Alexander Thom. 1878.

National school teachers residences to the extent of £4,940. For farm buildings, 106 loans, amounting to £76,490, have been approved of during the year reported on. In respect to dwellings for agricultural labourers, the number of loans sanctioned since last report is 44, amounting to £20,730; but respecting the surroundings of these dwellings we will have further to say hereafter.

*Re* fishery piers and harbours no memorial has been received during the year 1877-8 under these acts, but several works are in progress. The commissioners remark that as the works at Ardglass Harbour will involve a large expenditure, their lordships of the Treasury have directed them for the present not to bring forward applications for grants in aid of fishery piers from any other places, with the exception of Kinsale. In consequence, no further proceedings are being taken in respect to several intended. In respect to new bridges between counties—on memorials from the Grand Juries of the Counties Cork and Waterford, the Lord Lieutenant, on the recommendation of the board, appointed Messrs. Forsyth, Kirkby, and Tarrant to inquire into and report upon the expediency of having a new bridge built over the River Blackwater, near Youghal. The report has been made, and the matter is under the consideration of the Irish Government. A report has also been made by Messrs. Forsyth and Cotton, on the same recommendation, into the statements contained in the memorial of the Grand Jury of the South Riding of Tipperary, praying for the re-building of the bridge over the Suir at Carrick-on-Suir, and the requisite steps are being taken.

In our next notice we will deal further with some of the interests touched upon above and reported upon by the engineer to the board and the inspectors under the Landed Property Improvement Acts.

## DISCHARGE OF SEWAGE INTO THE SEA.\*

A VERY general impression prevails that if a town is situated close to the sea it is necessarily in a more advantageous position than inland towns, respecting the disposal of its sewage, as it has only to avail itself of its proximity to the sea to get rid of its sewage by discharging into it. That this is an erroneous impression the experience of most of our watering places proves, and it is therefore desirable to offer a caution to those who are contemplating adopting a similar course. In the Local Government Board Blue-book of 1876, one of the conclusions arrived at is as follows:—"That towns, situate on the seacoast, or on tidal estuaries, may be allowed to turn sewage into the sea or estuary, below the line of low water, provided no nuisance is caused; and that such mode of getting rid of sewage may be allowed and justified on the score of economy." This has been often quoted as encouraging the adoption of this method of sewage disposal, and it is to be regretted that the report gives no data whatever (such as are abundantly available) by which the qualifying expression, "provided no nuisance is caused," would be shown to apply to a great number, if not the majority of cases. It might have been stated that, to avoid a nuisance, the sewage must be discharged into the sea at a point not only below low water, but where there is a well-ascertained current which would carry it permanently seaward. A point of discharge complying with these conditions is but seldom

found to exist close to the town, but has to be reached by long and costly outfall sewers, or rather tunnels. At the outfalls there should be a continuous movement seaward during the 24 hours, instead of an oscillating action to and fro, resulting in a return of the sewage and its deposition along the shore, not only at the outfall and in its immediate neighbourhood, but also at distant places to which the tide carries. The writer has had occasion to inspect many watering places where the foreshore is being distinctly polluted in this way. At first the mischief is not great, and only traces of the sewage are visible; but in time it becomes serious, and the knowledge of the existence of sewage pollution on the foreshore causes the place to be avoided by those who hitherto have resorted to it. The grievance is not a merely sentimental one, as the exhalations along the foreshore from sewage accretions at low tide involve not only offensive smells, but also a danger to health.

The difficulties attending the discharge of sewage into the sea would be diminished were it not that it has a higher temperature and a lower specific gravity than sea or river water, which causes it to rise to the surface; and if it is not carried seaward at once, part of the suspended solid impurities are deposited on the coast wherever there is still water and no tidal current, whilst the rest of the suspended, together with the dissolved, impurities float on the surface, and are carried backwards and forwards by every tide, decomposing and liberating gases (sulphuretted hydrogen being one of the most offensive) injurious to health and polluting the air.

In some cases, by means of long outfall sewers, the sewage is carried clear away from the place producing it, as at Brighton. These practically become elongated cesspools, in which noxious gases are generated, and are liable to be forced back into the town drains, and thence into the houses. In these long outfalls, also, the solids deposit and involve both expense and difficulty to remove. Even if the places producing the sewage really get rid of it in this way, they are frequently simply transferring it to others, a set of the tide carrying it so as to cause mischief and nuisance elsewhere. No better illustration of this can be given than the experience of Margate. The authorities there proposed, after much competition amongst rival engineers, to adopt a scheme by which the sewage was to be discharged into the sea in a bay about a mile and a half eastward of the town, where it turned out that there was practically no current seaward, so that, had the scheme been carried out, the coast there would have been permanently polluted, as the sewage would have risen and dropped with the tide, evolving all kinds of dangerous and offensive gases, which would have effectually driven visitors away, and have depreciated to a serious extent the value of the neighbouring property. Ramsgate is in a similar difficulty, and many other places could be cited where it is a matter of serious concern how to deal with the sewage. The authorities are compelled to drain their towns, and the very effort they make to comply with the sanitary requirements of the day appears to involve them in almost greater difficulties. There is only one way safely of dealing with sewage at seaside places where the tidal currents are not clearly favourable, and that is, to deodorise the sewage before it is discharged into the sea.

The authorities of Glasgow have had the question of how to get rid of their sewage under consideration for a long while. A Royal Commission investigated this case, and although the result of this was to advise the adoption of a scheme to carry the sewage twenty-seven miles in a tunnel to the sea, at enormous cost, and although this advice was similar to that previously given, the authorities took the matter into their own hands, and appointed a committee of their body, which has recently presented an exceedingly able and interesting report, giving the results of their investigations. The conclusion they arrive at is not to adopt the recommendations

to discharge their sewage into the sea, but to discharge it into the River Clyde after it has been purified by chemical treatment.

Where there is a risk of nuisance, either to the place to be drained or to its neighbours (which is equally important), by discharging sewage into the sea, a clarification and deodorisation of the sewage can be easily and cheaply effected. No attempt to arrest the solids in catchment tanks can possibly be satisfactory, inasmuch as they only remove a very small portion of the solids, and become huge cesspools, which have to be cleared out at intervals, with a certainty of causing great nuisance. Filtration is also not admissible, as the filters soon get inoperative, and become in addition as great a nuisance as catchment tanks. By deodorising the sewage the first difficulty is overcome, as the sewage is no longer offensive.

There has hitherto been much prejudice against chemical treatment, which is, however, disappearing, as it has been abundantly proved that sewage can thereby be deprived of its offensive properties by simple and inexpensive means. The disposal of the semi-fluid sludge has been a difficulty which the writer has had to give much attention to, and he has employed several methods of converting it into a portable form. The plan which he has found the best is to remove a great part of the moisture from the sludge by means of a simple filter press. A model of this press (which is an automatic modification of an old construction of press) has been placed in the Exhibition of Sanitary Appliances. By an appliance of this kind, the sludge has the bulk of its water pressed out, and the consequent reduction both in mass and consistency enables the sludge to be better removed and utilised, or dealt with in any other way.

## EDISON'S WONDERFUL INVENTIONS.\*

THOMAS A. Edison has taken out 158 patents and filed 71 caveats. His home at Menlo Park, N. J., has become a sort of shrine for pilgrims in search of startling novelties. Mr. Edison was recently visited by a reporter, who found him hatless and coatless in his laboratory anxiously watching the operations of a lathe on a curious little machine, which he afterwards explained was a "toy phonograph to amuse the children." On all sides were evidences of deep scientific research. A large cabinet to the right contained about one hundred vials filled with chemicals of all sorts. Near by were dozens of volumes of scientific books, pamphlets, and papers scattered about in disorder and exhibiting marks of frequent handling. The hum of machinery, the clicking of telegraphic instruments, the buzz of electrical apparatus, the fuming of acids, and the presence of numerous quaint and curious machines, upon which perspiring workmen were engaged—filing, boring, smoothing, and hammering—made up the scene.

The professor stopped his lathe to greet the writer, and said, as he tried to smooth down a refractory lock of hair that persisted in standing up: "This little machine is for children exclusively. See, it will recite all sorts of nursery rhymes," and the inventor shouted into it—

"Old Mother Hubbard, she went to the cupboard  
To get her poor dog a bone;  
But when she got there the cupboard was bare,  
And so the poor dog got none."

"Now," he continued, "all you've got to do is to turn this little crank and grind it out." The crank was turned, and the little machine faithfully repeated the legend of the aged Mrs. Hubbard. "I'm going to make them with short sermons, Sunday-school hymns, and prayers," said Professor Edison, "so that children may be instructed while being amused; and I'm going to get them up so cheap that all can have them." "Are there any new developments in the telephone?" asked the writer. "Oh, I keep working away

\* By Mr. Henry Robinson, C.E. Communicated to Society of Arts Conference on Health and Sewage of Towns, May 24th.

\* From the *New York Scientific News*.



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at it," answered the inventor. "Only an hour ago Professor Barker, Professor of Physics in the University of Pennsylvania, left here after having made several curious experiments with my carbon telephone. He made connection between the laboratory here and a neighbouring house by wire, and every word could be plainly heard. A footstep and a whisper were distinctly audible, and we heard a sentence uttered in a low tone 100 ft. from the telephone." Mr. Edison has made several experiments with this apparatus, and has succeeded in measuring the fifty-thousandth part of a degree of heat. Next month Professor Young and Professor Brackett will go to Colorado to observe the solar eclipse, and the usefulness of this instrument for measuring the heat of the heavenly bodies will then be tested for the first time.

"Would you like to see the aerophone?" An affirmative reply caused the inventor to bring out from a corner two large cone-shaped machines, each about 5 ft. in length. Their object is to multiply sound, and already marvellous results have been achieved. Conversation has been carried on in the ordinary tone between persons at a farm-house, over a mile distant, and the professor standing at the door of his laboratory. The professor expresses confidence that it will soon be perfected, so that captains of vessels at sea can talk with each other at a distance of three miles. The latest, however, as well as the most curious, of Professor Edison's inventions is the megaphone, for which he has but just filed his caveat. It is a sort of sound opera glass. By means of its use persons partially deaf are enabled to hear the faintest sound with distinctness. It concentrates and multiplies the sound in as high a degree as is required. By applying it to the ear at a high rate of adjustment a whisper can be distinctly heard 300 ft. away. Already the professor has tested it sufficiently to be satisfied of its entire practicability. It is to be of small size, and have attached to it a rubber tube. In the inventor's own words, "it can be taken to the theatre by a person hard of hearing just as a person near-sighted now takes an opera glass. All you do is place it on your lap, let the tube touch your ear, and all the sounds come to you magnified fifty times, if necessary. The loudness can be regulated for the ear as you regulate a telescope for the eye."

"What is the history of this invention?" asked the writer. "Well, it is a curious origin," answered the professor, smiling. "Strange as it may seem, it came to life through the mistake of a reporter. Some weeks ago a reporter came to see my phonograph, and went back and got it all mixed up in his paper. He stated that I had got up a machine to make partially deaf people hear. The item was extensively copied, but I thought nothing more of it until after a while I found myself receiving letters from all over the country asking about it. I answered some saying it was a mistake, but they kept piling in upon me until I was getting them at the rate of twenty and thirty a day. Then I began thinking about the matter, and began experimenting. One day while at work on it I heard someone loudly singing, 'Mary had a Little Lamb.' I looked around; nobody was near me, and nobody was singing. Then I discovered that the singer was one of my young men, who in a distant corner of the room was softly singing to himself. The instrument had magnified the sound, and I heard it distinctly, although I'm pretty deaf, while others in the room had not heard a whisper. That was the first of the megaphone."

A walk through the workshop revealed to the writer scores of other products of the skill of the great inventor, which he, in his modesty, had not mentioned.

Forty-eight medical students (all of them ladies varying in age from 16 to 35 years) are, it is said, making a tour in Europe, under the charge of a Washington University professor. They must have sent a Moses to the fair before they started, for they one and all wear green spectacles.

## NEW CHURCH OF SS. PETER AND PAUL, KILMALLOCK, COUNTY LIMERICK.

WE publish with present issue a view of the new Church of SS. Peter and Paul now being erected in the ancient and historic town of Kilmallock. Though fallen from the proud position that it held in the middle ages, when it was one of the most important of the walled cities of Ireland, it is still remarkable for the number, beauty, and excellence of its ancient architectural monuments.

The new church will occupy a central and commanding position, and has been designed to correspond in style with the neighbouring Dominican Priory, founded in 1291 by Lord Offally. The plan of the church comprises nave, aisles, chancel, and side chapels, and tower and spire at the west end of south aisle, the sacristy and presbytery being situated on the north side of chancel. The exterior walls are to be built of the local limestone; the interior pillars are to be of polished Cork red marble. The roofs will be framed and panelled in pitch pine. Mr. J. J. McCarthy, R.H.A., Dublin, is the architect.

## ROYAL COLLEGE OF SURGEONS.

### OPENING OF NEW BUILDINGS.

THE new buildings which have been just completed at this College were formally opened on Saturday afternoon by his Grace the Duke of Marlborough. The additions comprise a library and museum about 90 ft. by 36 ft. each. The first stone was laid by the Duke of Abercorn in 1876. On each side of the museum are the cases containing the pathological and other specimens. Some of these cases, which are perfectly air-tight, stand against the walls, while others at intervals project to the extent of 4 ft. or 5 ft., and the corners of these cases, being of massive pine wood, serve as supports to the handsome gallery that runs round, and by that means waste of room is avoided, whilst the exhibits in these projecting cases are seen more advantageously, as the light is thrown on them obliquely. All the wood work, except the flooring, is of pitch pine. The new museum contains about 4,000 specimens, and among them is the Northumberland collection of waxwork preparations, presented to the College in 1830 by the Duke of Northumberland, when Lord Lieutenant of Ireland. There are about 150 separate cases here, but the total number of specimens in the museums of the College is about 12,000. The old museum has been re-arranged, and the whole interior of the College has been newly painted and decorated. The cost was about £10,000. Messrs. Millar and Symes were the architects of the new wing; the contractors were Messrs. Hall and Son, of Harcourt-street; and Messrs. William Curtis and Sons, of Middle Abbey-street, supplied the gas fittings and the heating apparatus.

## REFORM IN THE CIVIL SERVICE.

THE reorganisation of the Civil Service is, it appears (says a morning journal), seriously to engage the attention of Government. The supernumerary system, it is acknowledged, has broken down, not from the incapacity of those employed, but in consequence of the miserable rate of payment and the precarious nature of the engagement. The recent discussion on the Admiralty and War Office (Retirement of Officers) Bill brought to light important facts hitherto concealed, through the red-tape terrorism enforced in the Civil Service, and to which heads of departments injudiciously lent themselves. The multiplication of classes into which the clerks in many of the offices are now divided, the jealousies and favoritism, and consequent

serious delay in public business, have been exposed to the judgment of the public, and a change is demanded. Principals, assistant-principals, and first-class clerks have each and all exercised the opportunity offered them by their superiors, who very frequently are innocent of the practical working of their departments, in order to overburden the ill-paid supernumerary, and even second and third-class clerks, with work and responsibility which should not attach to them. Who suffers if an error is detected? The unfortunate copyist or ill-paid draughtsman. As an improvement on the present system, it is understood that the Government purposes having inquiry instituted as to the capabilities and practical knowledge of heads of departments in the Civil Service, in order to fix responsibility on what has been happily and properly designated "the Civil Service foreman," who, in order to be held answerable for the working of his special department, must have a technical and practical knowledge of the work appertaining to it. This is an act of justice to the toiling civil servant who is obliged to work late and early, and submit to fine and dismissal, in order to earn £1 or 25s. a-week. The civil servants have it in their power to improve their position by a calm and explicit statement of their grievances.

## LAW.

### HIGH COURT OF JUSTICE (CHANCERY DIVISION).

(Before the Vice-Chancellor.)

*The Attorney-General, at the relation of Robert Henry Davis v. the Bray Township Commissioners and the Bray Pavilion Company (Limited).*—Mr. Atkinson (with whom was Mr. Monroe, Q.C.) applied in this case for an order that, pending the hearing of the cause, the defendants, the Bray Pavilion Company (Limited), might be restrained from further proceeding with the erection of the buildings and works already commenced by them on the Esplanade at Bray, or for such other order as the Court might direct.

Mr. Martin Burke appeared on behalf of the Pavilion Company, and asked that the motion might be allowed to stand, as copies of the affidavit filed by the relator had only been delivered that morning.

Mr. Jellett, Q.C. (with whom was Mr. Price), on behalf of the Bray Town Commissioners, said the motion was to restrain the erection of buildings for bathing purposes, and also a pavilion which was intended to comprise a floral hall.

The Vice-Chancellor—So far as bathing goes, it would be hard to stop it this weather.

Mr. Jellett said it occurred to him that his lordship might make the same order as was made in the case of Mackey v. the Scottish Widows' Fund Society. The motion could stand over until the hearing of the cause, the parties undertaking to abide by any order that would be then made.

Mr. Burke said the buildings were actually constructed, or nearly completed, with the exception of some ornamental work. The motion could stand over until the hearing of the cause, and the buildings could be completed, the defendants undertaking to take down any portion that his lordship might direct, and the plaintiff to be responsible for any damage that the defendants might sustain.

The Vice-Chancellor said it would be unreasonable to expect that the defendants would be prepared to go on with the case at present, considering that they had only got the copy of the plaintiff's affidavits that morning.

Mr. Atkinson said they were most anxious to have the motion heard before November.

After some conversation,

The Vice-Chancellor said he would adjourn the motion for ten days; the defendants to have eight days to answer any further affidavits on the part of the plaintiff.

Mr. Jellett said he had no objection to an injunction being issued as regards any buildings that were proposed, and that had not

been commenced, on the plaintiff giving an undertaking to be accountable for any loss or damage defendants might sustain.

## CORRESPONDENCE.

### THE CLEANSING OF THE LIFFEY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—It has been remarked with some satisfaction that the odour from the Liffey is not so offensive this year as heretofore; this has been attributed to the passage of steam barges, and the wash produced by them. Such, however, cannot be, as the disturbance of the water thereby is insignificant. It is more natural to account for the mitigation of the evil by the floods and freshes of last June, so unusual in other years, whereby the decomposing accumulations of sewage matter on the banks have been washed away, in reference to which the citizens might be reminded of the last recommendation of the three engineers (the writer being one) in their report on the various schemes for abating the nuisance of the Liffey, printed in September, 1874, which consisted in a proposal to save up the flood waters of the Liffey in a reservoir to be constructed in the mountains of Ballysmuttan, which would be capable of storing enough water to add 52,000 gallons per minute to the waters of the Liffey during four hours of every day for 100 days of each year. It need hardly be remarked that such a body of water would cleanse the bed and margins effectually. The cost of such a work would be £30,000. The retaining of the flood water would remove the inconvenience of shipping and damage to works and lands arising from floods. The increased value of the mill power along the course of the Liffey would, if realised (as on the Bann River), almost pay interest on the outlay.

JAMES PRICE, C.E.

### IRISH ENGRAVERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Very many thanks for kindness in sending the article on Irish Engravers. It is admirably written, and tells its story in an unusually effective manner. Is it not strange that Irish artists in every department are so undervalued, or, rather, neglected in their own land? Yours, W. F.

August 3rd, 1878.

### TRADES UNION CONGRESS.

THE eleventh annual Trades Union Congress will be held in the Athenæum, Bristol, on Monday, September 9, and following days. The Parliamentary programme consists of the following questions:—A bill to amend the law of compensation in cases of accidents, so that workmen, or their families, may recover from an employer in the event of injury or death from accidents due to negligence. Reform of the magistracy, and the consideration by Parliament of what limit shall be placed upon the summary jurisdiction of magistrates, which deprives citizens of the right of trial by jury. The mode of appointing unpaid and unqualified magistrates. The irregularity with which the law is administered by the magistracy. The codification of the criminal law. Reform of the jury law by lowering the qualification for jurymen so as to admit a large number of workmen to the discharge of the important duties of jurymen, and thereby prevent the necessity of men serving as jurors so frequently, and provide reasonable payment for loss of time. The extension of the Employer and Workman Act, 1875, to English seamen whilst in British waters. Reform of the patent laws. Abolition of imprisonment for debt. Certificates of competency for men in charge of steam engines and boilers.

Among other questions which will come before the Congress are—co-operation and its relation to trades unionism, representa-

tion of labour in Parliament, and overtime and apprenticeship. In addition to the President's opening address and the discussion, Mr. John Morley, the editor of *The Fortnightly Review*, will deliver an address on "Over-Production." The committee appeal to their brethren for funds to enable them to creditably carry out their arrangements.

### TWELVE JERRY BUILDERS.

(A REMINISCENCE OF LONDON.)

Twelve Jerry builders, with wits of replevin;  
One died raving mad, and then there were eleven.  
Eleven Jerry builders all "seamping," when  
A house fell, killing one, and then there were ten.  
Ten Jerry builders, each muled in a fine;  
One cut his glottis, and then there were nine.  
Nine Jerry builders, discounting their fate;  
One died of small-pox, and then there were eight.  
Eight Jerry builders, with no honest leaven;  
One wretch was drowned, and then there were seven.  
Seven Jerry builders, using rotten bricks;  
One was killed with lightning, and then there were six.  
Six Jerry builders all went down alive,  
But out of the sand-pit came up only five.  
Five Jerry builders the Building Act deplore;  
One hung him up, and then there were four.  
Four Jerry builders, near the River Lea;  
One met a random ball, and then there were three.  
Three Jerry builders, looking very blue;  
His wife poisoned one, and then there were only two.  
Two Jerry builders, no "shoots" to build upon,  
Kilkenny-cat-like, they fought, and then there were none.

THE EPITAPH.

*Hic jacet* deep below, as deep as men might delve,  
In one channel pit lie the bodies of the twelve.  
By ashes they lived, and 'tis meet that they must  
As dead Jerry builders be mixing their dust.  
—*Hackney Express*.

### THE BRITISH ASSOCIATION.

TWENTY-one years have elapsed since our city was favoured with a visit from the "British Association for the Advancement of Science." Last evening the President delivered his inaugural address in the Large Concert Hall, Exhibition Palace. During the week the several sections will meet each morning at eleven o'clock in various rooms in Trinity College. On this evening there will be a *conversazione* at the House of the Royal Dublin Society, Kildare-street, when all the available resources of the Society will be brought into play for the purpose of affording instruction and entertainment to the crowd of visitors who will, no doubt, flock thereto. All the rooms will be thrown open. The approach will be through the Leinster Hall. In a side wing of this hall Mr. J. R. Wigham will have a powerful gas-engine for exhibition, and he will have a Gramme machine for the display of the electric light in the Leinster Lawn, and also in the principal hall of main building. Within the several apartments of the main building a variety of interesting objects will be collected. In the Theatre a display of carnivorous plants will be described by Dr. David Moore of the Botanic Gardens. A number of heads of the great extinct Irish deer will be on view, and a discourse given upon them by Dr. Moss, who was a distinguished member of the Nares' Arctic Expedition. Many of these fossils were found at Ballybeagh, a short distance from the Scalp, and it is intended to exhibit a number of them *in situ* there to the members of one of the excursions. Professor George J. Stoney will, in a room adjacent to the Theatre, conduct experiments with the spectroscope, and in another room there will be experiments with the polariscope. The Society's Museum abounds with objects which strangers honouring this city with a visit will find not unworthy of their inspection. The Stereoscopic Company of London have kindly lent a phonograph—that recently-invented and most interesting machine by which sounds are arrested and recorded. The Earl of Rosse sends a telescope fitted with adjusting apparatus, and other mechanical arrangements of a special and refined character. In the Conversation Room electrical experiments in vacuum tubes will be conducted, the apparatus in preparation for this purpose including a large induction coil lent by Mr. Yeates, of London, and condensers lent by the presi-

dent, Mr. Spottiswoode, who sends over a special assistant in connection with them. The display will also include an immense number of microscopes, photographs, &c. The objects in microscopes have been prepared by Mr. W. Archer, the secretary of the Dublin Microscopic Club. Professor Barrett has selected from the South Kensington Museum an interesting group of reproductions of antique scientific instruments, viz., the Magdeburg Hemispheres, Querike's air pump, Janssen's microscope, Muschenbrock's pyrometer, Tycho Brahe's quadrant, Lavoisier's calorimeter, Joule's paddle apparatus, an Arabian astrolabe, an astrolabe of the period of Philip the Second, an Arabian planisphere, an Arabian quadrant, and several weights and measures. The National Gallery will, by permission of the directors, be open to those attending the *conversazione*.

The soirée at the Royal Irish Academy House on the evening of Tuesday will bring forward treasures of another description. The Royal Irish Academy, our principal literary and scientific society, has always guarded with jealous care, and preserved with special honour, these ancient Irish manuscripts and remains which tell the tale of Celtic civilization. The society's spacious library and museum are being got ready for the occasion. There are in the library some eight hundred ancient Irish manuscripts. From these Mr. MacSweeney, the assistant librarian, has selected a group which will be sure to interest not alone Celtic scholars, but even the most uninitiated visitor. One of these is a copy of a book known as the *Leabhar na Huidhri*, made by one of the abbots of Clonmacnoise, about 1100 A.D. The original was composed in the seventh century, and contained a number of legends and pieces illustrative of Irish laws and customs in the pre-Christian period. The copy is written on the skin of a pet calf which followed the abbot into the monastery, hence the book has been called the "Book of the Dun Cow." This manuscript book is the oldest and most valuable in the academy. It contains sixty-seven pages, the writing being excellent, and the orthography being so correct as to furnish a standard by which other manuscripts are tried. Then there is a Latin copy of the Gospels, written in the Irish character, by St. Patrick, about 432 A.D. The *Leabhar Breac*, or Speckled Book, consists of one hundred and thirty-one leaves of vellum, and contains religious tracts of the ninth century. The Book of Leinster and the Book of Ballymote, the latter containing tracts in the Ogham character, will be seen; also the original Annals of the Four Masters, written in 1632; a work written by O'Clery, one of the Four Masters, professing to deal with the history of the country from the time of Adam, and giving an account of all the races by whom it has been inhabited; a genealogy of all the principal Milesian families, written by O'Clery in 1632; a copy of the Book of Lismore, the original of which was found in a stone chest in Lismore Castle about the fifteenth century; the *Leabhar Lecam*, a book of the date 1391 A.D., written by an author whose family were hereditary scribes or historians to the Kings of Connaught; and an old copy of fragments of the Brehon Laws, besides fragments of ancient Irish treatises on astronomy and medicine. A separate case will contain documents of the early Anglo-Norman period of Irish history. The attention of visitors will be sure to be engaged by the volumes containing exquisite specimens of antique Irish illuminating art. There is also a volume of coloured drawings illustrative of the mythology of China, which obtained high praise from one of the Ambassadors from that country. The library of the national poet, Moore, and the thirty thousand pamphlets relating to Ireland since 1578, bequeathed to the Academy by the late Charles Halliday, will likewise claim no small share of attention; and none should leave without looking at an unpretending little frame containing the original MS. of the Rev. C. Wolfe's famed poem on the Burial of Sir John Moore.

### THE "ORION" GAS-OIL LAMP.

AMONGST the exhibits at recent Royal Agricultural Show at Ball's Bridge last week, were samples of the lamp invented and patented by Messrs. Whittle and Son, of Whitehaven. The "Orion" Gas-oil Lamp (as has been already noted in our columns) is well adapted to meet the requirements of localities where gas cannot be manufactured at a reasonable price. Oil sufficient for forty hours' use is contained in an air-tight cistern surrounding the breast of the lamp, from which it descends by a pipe to the interior of it. The oil is admitted, in the same way as gas, to an ingeniously-constructed burner, where it is volatilised, and burns steadily, emitting a light equal to about 25 standard candles, at a cost of one farthing per hour. A reference to an illustrated circular accompanying this number of the IRISH BUILDER will show the various forms in which the Messrs. Whittle manufacture their lamps.

### DRAWINGS AT SOUTH KENSINGTON.

#### THE DUBLIN SCHOOL OF ART.

IN the exhibition of drawings by students in the National Art Competition, opened this week at South Kensington, the Dublin School again comes out prominently in affording one of the nine gold medallists in the person of Miss Dora Bradley. The other schools so distinguished are—Bloombsbury (Mary K. Benson, winner also of the Princess of Wales' Scholarship of £25); Nottingham (James A. Stamp and John M. Carr); Hyde-place, Westminster (George F. Catchpole); City and Spitalfields (George Daniels); Brighton (Elizabeth Grace, to whom has been awarded the Princess of Wales' Scholarship of £11); Edinburgh Male School (Joseph T. Ross); and Sheffield (Annie Yeomans). These same schools figure likewise in the silver medal list, as do Manchester, Hanley, Birmingham, Dundee, Burslem, Coalbrookdale, Lincoln, Rotherham, and Leicester, with several of the London schools. The Lambeth School, hitherto successful, is restricted this time to the attainment of two or three bronze medals. The continued success of the Dublin School in these National Art Competitions must be most pleasing to Mr. Edwin Lyne, the efficient head master, and his assistants, as it is also to the citizens of Dublin.

### THE INTERNATIONAL CONGRESS OF ARCHITECTS.

THIS Congress, which opened on the 29th ult. in the Palace of the Trocadéro, was attended by many distinguished foreigners representing their country and profession. M. Lefuel, member of the Institute, and president of the organising committee, occupied the chair, and delivered the opening address. Among the vice-chairmen were M. Charles Blanc, of the Academy of Fine Arts; M. De Laborde, Permanent Secretary of the Academy of Fine Arts; M. Strohm, of St. Petersburg, Councillor of State, &c.; M. Boeswillwald, Inspector-General of Historical Monuments. The secretaries were M. Charles Lucas, M. Cernesson, and M. Raulin. When the president had concluded his opening address, M. Charles Lucas gave an effective summary of his secretaryship. M. Achille Herman, architect of the Tower of Paris, followed with a brilliant paper on "Æsthetics for the Million." On the second day of the Congress, Messrs. Couran and Dumont spoke of the importance and necessity of compelling architects to earn and obtain a diploma before they are allowed to practise their calling. M. Langlet declared that practice had proved in Denmark that diplomas were not of much use. M. Strohm admitted that in Russia they had not been of much greater use. M. César Daly, editor of the *Revue Générale de l'Architecture et des Travaux Publics*, suggested that Mr. R. Phéné Spiers should be called upon to explain the position of English architects and English architecture, on the ground that he enjoyed the benefits of education both in England and in France, and could therefore compare

the two systems. Mr. Spiers, in an excellent speech, proved the past and present position of English architects. A resolution was come to at an afternoon sitting, urging that the societies in France shall place themselves in communication with foreign and provincial architectural societies, and study and decide the questions relating to giving diplomas to architects. We may note some other matters discussed at the Congress in our next issue.

Similar to the English Congress, a day was devoted by the French architects to an excursion, and several places and objects of interest were visited.

### THE BRITISH ASSOCIATION IN DUBLIN.

As we are preparing to go to press, the meeting of the British Association opens. Owing to the exigencies of publication we cannot present our readers with more than a few details of the opening proceedings. We cordially, however, as professional journalists, join in welcoming the members of the Association and their friends to our city, and trust that their sittings and visits will be productive of a national benefit in the cause of science and the common weal, and to the members personally that their visit to Dublin may be fraught with pleasure.

It is forty-seven years since "The British Association for the Advancement of Science" held its first meeting in York. How great have been the changes and progress since then in every department of the arts and sciences every intelligent person is aware. It will not be amiss to quote here the remarks of the late Charles Babbage in his work "On the Economy of Machinery and Manufactures," published in the same year that the Association held its first meeting. That eminent mathematician, in the last chapter of his book, "On the Future Prospects of Manufactures as connected with Science," writes:—"But younger institutions have arisen to supply the deficiencies of the old; and very recently a new combination, differing entirely from the older societies, promises to give additional steadiness to the future march of science. 'The British Association for the Promotion of Science' would have acted as a powerful ally even if the Royal Society were all it might be; but in the present state of that body such an association is almost necessary for the purposes of science. The periodical assemblage of persons pursuing the same or different branches of knowledge always produces an excitement which is favourable to the development of new ideas, whilst the long period of repose which succeeds, is advantageous for the prosecution of the reasonings or the experiments then suggested; and the recurrence of the meeting in the succeeding year will stimulate the activity of the inquirer, by the hope of being then enabled to produce the successful result of his labours. Another advantage is that such meetings bring together a much larger number of persons actively engaged in science, or placed in positions in which they can contribute to it, than can ever be found at the ordinary meetings of other societies, even in the most populous capitals; and combined efforts towards any particular object can thus be obtained. But perhaps the greatest benefit which will accrue to science from these assemblies, is the intercourse which they cannot fail to promote between the different classes of society. The man of science will derive practical information from the great

manufacturers; the chemist will be indebted to the same source for substances which exist in such minute quantity as only to become valuable in most extensive operations; and persons of wealth and property, resident in each neighbourhood visited by these migratory assemblies, will derive greater advantage than either of those classes, from the real instruction they may procure respecting the produce and manufactures of their country, and the enlightened gratification which is ever attendant on the acquisition of knowledge."

The words of Babbage are still to a great extent applicable, notwithstanding the great extension and application of steam power, the intercourse brought out by railways and ocean steamers, the spread of knowledge sown broadcast by the Press, coupled with the electric telegraphs and other agents. For the reasons stated above, and for others, we look upon such meetings as those of the British Association as ones to be commended and encouraged.

### THE PUBLIC HEALTH IN DUBLIN.

THE following remarks appear in late issues of the *Sanitary Record*. Some observations of our own appear elsewhere in these columns:—

"During the quarter ended the 30th ult., no less than 212 deaths from small-pox occurred in Dublin. And yet we learn that the Public Health Committee of the Corporation have ceased all payments for the destruction of infected clothing of small-pox patients in consequence of there being no means of providing the necessary funds! We should not be surprised to hear of a panic in the city from the prevalence of small-pox before many weeks are over. The general death-rate of Dublin is exceedingly high, being last quarter at the rate of 30.3 per 1,000. Zymotic diseases alone produced 586 deaths, or 201 above the average for the corresponding quarter of the preceding ten years."—(July 26.)

"The old proverb that 'between two stools we fall to the ground' would seem to apply with peculiar force to the unhappy inhabitants of Dublin. Small-pox, which a few weeks ago showed signs of decreasing, has now taken an upward turn in the city, and yet, as we pointed out in our issue of July 26, the Public Health Committee have ceased all payments for the destruction of infected clothing of small-pox patients. Under the plea of being mangle for lack of funds to cope with the disease, the committee have appealed to the Local Government Board to put in force the Diseases Prevention Act, which confers more extended powers upon the board than those invested in the sanitary authority. This the board have refused to do, as they are of opinion that the powers conferred upon them are only intended to be exercised in the event of the country generally being threatened with some formidable epidemic. No doubt this is the right view for the board to take, but at least they ought to spur the Health Committee to more vigorous action in checking the spread of the disease, or else take the work out of their palsied hands altogether."—(August 10.)

In reference to the above statements, we would observe that according to the Registrar's Return for the week ending August 3, "The deaths are 6 less than in the preceding week." It is also stated in the Return—"The number of new cases of the disease admitted into the Dublin hospitals last week was 38, being 34 less than in the preceding week." To speak truthfully, then, this does not show the "upward turn" in regard to small-pox, as mentioned by our contemporaries. At the same time, in view of the supineness of our Corporation, increased vigilance on the part of sanitary reformers is necessary, that a public danger may be averted. To be forewarned is to be forearmed, if the local authorities are prepared to perform their duties.

A new lectern, by Messrs. Jones and Willis, London and Birmingham, has been placed in the parish church, Coleraine, as a token of esteem from some friends of Rev. James O'Hara, for thirty years minister of the parish.

## PAPER BUILDING AND FURNITURE.

## THE PAPER EXHIBITION, BERLIN.

A somewhat unique exhibition was opened a few days since at Berlin. It is devoted entirely to the paper-making industry, and the exhibits comprise everything that can be made of paper, from collars and cuffs to furniture and houses. The number of exhibitors is upwards of 487, and they comprise among them makers from every European State, and the exhibits include the productions from China and Japan, which form part of the collection belonging to the Museum of Art and Industry in Berlin. The whole of the processes connected with paper-making are shown by the aid of the newest and most approved machinery. The great attraction and curiosity among the various exhibits is a small house, the body of which is built of wood, but covered with paper bricks, capable of withstanding wind and weather, cool in summer, and warm in winter. The roofing is of paper, as also the wainscot of the interior. The whole of the fittings and hangings inside are of the same material, and the furniture is composed of papier-maché, used in the place of wood, which it effectually replaces. Vases capable of containing liquids, tablecloths and table napkins, are also shown. The palm, however (says a contemporary), will be awarded by ladies to petticoats and over-skirts of the latest fashion, *façonnés*, and trimmed in the newest style, but all made of paper. A sailing vessel of the same material is exhibited, and an ape copied from that in the Zoological Gardens of Dresden. In fact, every description of article capable of being formed of paper finds a place in this exhibition. As we ourselves have not seen the above exhibits, we are unable to say aught of the practical value of the paper bricks and paper furniture. Paper houses or paper bricks and slates would, after all, be scarcely a novelty, as thousands of houses for many years past in the three kingdoms have been run-up of "paper, lath, and plaster." Rags and paper, mud and dry-rot, have a close connection; and many of the paper houses in the British Islands are the work of men of straw!

## THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy was held on Monday evening.

Sir ROBERT KANE, President, occupied the chair.

Dr. W. Bernard read a paper "On the Preservation and Exploration of the Ruins of the Grianan of Aileach."\* He said that when first his attention was drawn to this ancient and historic place it was in a very ruinous condition. An account of it given in the Ordnance Survey of the County Londonderry described it as an immense circular heap of stones. Of its once solitary grandeur no idea could be formed. The circular wall was 7ft. 6 in. in diameter, and in its present state about 6 ft. high. Of its original height it was not easy now to form an opinion, but, judging from the quantity of stones lying around, it must have been at least twice, and perhaps four times, as high. In the spring of 1874 he (Dr. Bernard) began the work at once of excavation and restoration, and, with the aid of a number of persons in the locality, he had worked in the spring and summer of each year. At first there was little inclination to help him, but as soon as it was discovered that he was in earnest numerous helpers turned up, and at one time there were as many as 44. They worked, as a rule, only one day in the week. All worked carefully under his direction, but not dictation. Of course if a portion was not properly built it had to be taken down. In the course of the excavations he found what appeared to be stone implements, a ring, and some coins. He also found a midden, in which there were ashes and

burned bones. The work of restoration, effected to the best of his power, had been completed, and he hoped application would be made to have it placed on the schedule under the Act for the Preservation of Ancient Monuments.

Professor O'Looney moved that the best thanks of the Academy be given to Dr. Bernard, and that the paper be referred to the council for publication. He hoped that Dr. Bernard would make still further investigation, and that the articles found might be collected and placed in the museum.

Dr. Brady seconded the motion.

Dr. Richey expressed disapproval of restorations of such a sweeping character. But looking at it as it was now, he was of opinion that it looked very like a state fort.

## THE PRESIDENT'S ADDRESS.

## BRITISH ASSOCIATION.

THE Large Concert Hall of the Exhibition Palace was last evening filled with a goodly number of the learned and scientific men from all parts of the world. Amongst those we noticed were:—The Earl of Rosse; Lord Gough; the Provost of Trinity College; Prof. Huxley, Sir Joseph Hooker, Sir John Hawkshaw, Prof. Stokes, Secretary to the Royal Society; the Bishop of Derry; Dr. Hirst, Prof. Sylvester, Prof. A. W. Williamson, Prof. W. C. Williamson, Gen. Lane Fox, the Bishop of Limerick, Major Wilson, Dr. Ball, Astronomer Royal; Mr. G. J. Stoney, Dr. Sigerson, Prof. Flowers, Sir Wyville Thomson, Sir Walter Elliott, Sir James Watson, Mr. John Evans, Mr. Henderson, Mr. Chas. Brooke, Dr. Gladstone, Prof. Roscoe, Prof. H. Smyth, Prof. Herschel, Captain Verney, Prof. Hull, Prof. Barrett, Prof. Hennessy, Rev. Prof. Perry, Prof. S. Thomson, Mr. Bramwell, Mr. Easton, Mr. Pengelly, Prof. B. Dawkins, Prof. W. G. Adams, Mr. R. C. Clapham, Mr. W. Hancock, Dr. N. Hancock, Prof. Hughes, Rev. Dr. Tristram, Mr. Hallett, Mr. Preece, Prof. Harley, Major Wilson, R.E., Prof. J. Thompson, Dr. L. Carpenter, Baron Max von Weber, Prof. Suringer, Prof. B. Ball, of Paris; M. Bergeron, Prof. Casey, Rev. Dr. Molloy, Dr. Tichborne, Sir Robert Kane, Mr. Chandless Roberts, Prof. Ingram, Mr. Geo. Spottiswoode, &c.

The outgoing President of the Association, Professor Allen Thomson, opened the proceedings by stating that the object of their meeting on the occasion was to listen to the address of their new President, William Spottiswoode, Esq., LL.D. Into his hands he would commit the management of the Association for the ensuing twelve months, well assured that he, whose pre-eminent scientific ability and learning have procured him in the same year the honour of being named President Elect of the Royal Society of London, will receive a cordial welcome as the head of your association, and more especially that his presidency will give satisfaction in the city of Dublin, as he represents that department of science by the advancement of which so many of her sons have attained to fame.

The President having taken the chair proceeded with his address, of which we print some passages.

## ADDRESS.

Time was when the Royal Societies of London and Edinburgh and the Royal Irish Academy were the only representative bodies of British Science, and the only receptacles of memoirs relating thereto. But latterly, the division of labour, so general in industrial life, has operated in giving rise to special societies, such as the Astronomical, the Linnean, the Chemical, the Geological, the Geographical, the Statistical, the Mathematical, the Physical, and many others. To both the earlier, or more general, and the latter or more special societies alike, the British Association shows resemblance and affinity. We are general in our comprehensiveness; we are special in our sectional arrangement; and in this respect we offer not only a counterpart,

but to some extent a counterpoise, to the general tendency to sub-division in Science. Further still, while maintaining in their integrity all the elements of a strictly scientific body, we also include, in our character of a microcosm, and under our more social aspect, a certain freedom of treatment, and interaction of our various branches, which is scarcely possible among separate and independent societies. The general business of our meetings consists, first, in receiving and discussing communications upon scientific subjects at the various sections into which our body is divided, with discussions thereon; secondly, in distributing, under the advice of our Committee of Recommendations, the funds arising from the subscriptions of members and associates; and thirdly, in electing a council upon whom devolves the conduct of our affairs until the next meeting. The communications to the sections are of two kinds, viz., papers from individuals, and reports from Committees. As to the subject-matter of the papers, nothing which falls within the range of natural knowledge, as partitioned among our sections, can be considered foreign to the purposes of the Association; and even many applications of science, when viewed in reference to their scientific basis, may properly find a place in our proceedings. So numerous, however, are the topics herein comprised, so easy the transition beyond these limits, that it has been thought necessary to confine ourselves strictly within this range, lest the introduction of other matter, however interesting to individual members, should lead to the sacrifice of more important subjects. . . .

One of the principal methods by which this Association materially promotes the advancement of science, and consequently one of its most important functions, consists in grants of money from its own income in aid of special scientific researches. The total amount so laid out during the forty-seven years of our existence has been no less than £44,000; and the average during the last ten years has been £1,450 per annum. These sums have not only been in the main wisely voted and usefully expended, but they have been themselves productive of much additional voluntary expenditure of both time and money on the part of those to whom the grants have been entrusted. The results have come back to the Association in the form of papers and reports, many of which have been printed in our volumes. By this appropriation of a large portion of its funds, the Association has to some extent anticipated, nay, even it may have partially inspired the ideas, now so much discussed, of the endowment of research. And whether the aspirations of those who advocate such endowment be ever fully realised or not, there can, I think, be no doubt whatever that the Association in the matter of these grants has afforded a most powerful stimulus to original research and discovery. Regarded from another point of view, these grants, together with others to be hereafter mentioned, present a strong similarity to that useful institution, the professoriate extraordinary of Germany, to which there are no foundations exactly corresponding in this country. For, besides their more direct educational purpose, these professorships are intended, like our own grants, to afford to special individuals an opportunity of following out the special work for which they have previously proved themselves competent. And in this respect the British Association may be regarded as supplying, to the extent of its means, an elasticity which is wanting in our own universities. Besides the funds which through your support are at the disposal of the British Association, there are, as is well known to many here present, other funds of more or less similar character at the disposal or subject to the recommendations of the Royal Society. There is the Donation Fund, the property of the society; Government grant of £1,000 per annum, administered by the society; and the Government fund of £4,000 per annum (an experiment for five years) to be distributed by the Science and Art Department, both for research itself, and for

\* A description, with illustration, will be found in "The Ecclesiastical Architecture of Ireland," by the late R. R. Brash, architect. To be had at our office, or by order through any bookseller. The price of the work has been reduced to 12s. 6d.

the support of those engaged thereon, according to the recommendations of a committee consisting mainly of Fellows of the Royal Society. To these might be added other funds in the hands of different scientific societies. But although it must be admitted that the purposes of these various funds are not to be distinguished by any very simple line of demarcation, and that they may, therefore, occasionally appear to overlap one another, it may still, I think, be fairly maintained that this fact does not furnish any sufficient reason against their co-existence. There are many topics of research too minute in their range, too tentative in their present condition, to come fairly within the scope of the funds administered by the Royal Society. There are others, ample enough in their extent, and long enough in their necessary duration, to claim for their support a national grant, but which need to be actually set on foot or tried before they can fairly expect the recognition either of the public or of the Government. To these categories others might be added; but the above-mentioned instances will perhaps suffice to show that even if larger and more permanent funds were devoted to the promotion of research than is the case at present, there would still be a field of activity open to the British Association as well as to other scientific bodies which may have funds at their disposal.

Of the nature and functions of the presidential address this is perhaps neither the time nor the place to speak; but if I might for a moment forget the purpose for which we are now assembled, I would take the opportunity of reminding those who have not attended many of our former meetings that our annual volumes contain a long series of addresses on the progress of science, from a number of our most eminent men, to which there is perhaps no parallel elsewhere. These addresses are perhaps as remarkable for their variety in mode of treatment as for the value of their subject-matter. Some of our Presidents, and especially those who officiated in the early days of our existence have passed in review the various branches of science, and have noted the progress made in each during the current year. But, as the various sciences have demanded more and more special treatment on the part of those who seriously pursue them, so have the cases of individuals who can of their own knowledge give anything approaching to a general review become more and more rare. To this may be added the fact that although no year is so barren as to fail in affording sufficient crop for a strictly scientific budget, or for a detailed report of progress in research, yet one year is more fertile than another in growths of sufficient prominence to arrest the attention of the general public, and to supply topics suitable for the address. On these accounts apparently such a Presidential survey has ceased to be annual, and has dropped into an intermittence of longer period. Some presidents have made a scientific principle, such as the Time-element in natural phenomena, or Continuity, or Natural Selection, the theme of their discourse, and have gathered illustrations from various branches of knowledge. Others again, taking their own special subject as a fundamental note, and thence modulating into other kindred keys, have borne testimony to the fact that no subject is so special as to be devoid of bearing or of influence on many others. Some have described the successive stages of even a single but important investigation; and while tracing the growth of that particular item, and of the ideas involved in it, have incidentally shown to the outer world what manner of business a serious investigation is. But there is happily no pattern or precedent which the President is bound to follow; both in range of subject-matter and in mode of treatment each has exercised his undoubted right of taking an independent line. And it can hardly be doubted that a judicious exercise of this freedom has contributed more than anything else to sustain the interest of a

series of annual discourses extending now over nearly half a century. The nature of the subjects which may fairly come within the scope of such a discourse has of late been much discussed; and the question is one upon which everyone of course is entitled to form his own judgment; but lest there should be any misapprehension as to how far it concerns us in our corporate capacity it will be well to remind my hearers that as, on the one hand, there is no discussion on the presidential address, and the members as a body express no formal opinion upon it, so, on the other, the Association cannot fairly be considered as in any way committed to its tenour or conclusions. Whether this immunity from comment and reply be really on the whole so advantageous to the President as might be supposed need not here be discussed; but suffice it to say, that the case of an audience assembled to listen without discussion finds a parallel elsewhere, and in the parallel case it is not generally considered that the result is altogether either advantageous to the speaker or conducive to excellence in the discourse. But, apart from this, the question of a limitation of range in the subject-matter for the presidential address is not quite so simple as may at first sight appear. It must, in fact, be borne in mind that, while on the one hand knowledge is distinct from opinion, from feeling, and from all other modes of subjective impression, still the limits of knowledge are at all times expanding, and the boundaries of the known and unknown are never rigid or permanently fixed. That which in time past or present has belonged to one category, may in time future belong to the other. Our ignorance consists partly in ignorance of actual facts, and partly also in ignorance of the possible range of ascertainable fact. If we could lay down beforehand precise limits of possible knowledge, the problem of physical science would be already half solved. But the question to which the scientific explorer has often to address himself is not merely whether he is able to solve this or that problem, but whether he can so far unravel the tangled threads of the matter with which he has to deal as to weave them into a definite problem at all. He is not like a candidate at an examination with a precise set of questions placed before him; he must first himself act the part of the examiner, and select questions from the repertory of nature, and upon them found others, which in some sense are capable of definite solution. If his eye seem dim, he must look steadfastly and with hope into the misty vision, until the very clouds wreath themselves into definite forms. If his ear seem dull, he must listen patiently and with sympathetic trust to the intricate whisperings of nature—the goddess, as she has been called, of a hundred voices—until here and there he can pick out a few simple notes to which his own powers can resound. If, then, at a moment when he finds himself placed on a pinnacle from which he is called upon to take a perspective survey of the range of science, and to tell us what he can see from his vantage ground; if at such a moment, after straining his gaze to the very verge of the horizon, and after describing the most distant of well-defined objects, he should give utterance also to some of the subjective impressions which he is conscious of receiving from regions beyond; if he should depict possibilities which seem opening to his view; if he should explain why he thinks this a mere blind alley and that an open path; then the fault and the loss would be alike ours if we refused to listen calmly and temperately to form our own judgment on what we hear; then assuredly it is we who would be committing the error of confounding matters of fact and matters of opinion if we failed to discriminate between the various elements contained in such a discourse, and assumed that they had all been put on the same footing. But to whatever decision we may each come on these controverted points, one thing appears clear from a retrospect of past experience, viz., that first or last, either at the outset in his choice of subject, or in the

conclusions ultimately drawn therefrom, the President, according to his own account at least, finds himself on every occasion in a position of "exceptional or more than usual difficulty."

Touching the relation of mathematics to natural knowledge, the President said:—In his preface to the "Principia," Newton gives expression to some general ideas which may well serve as the key-note for all future utterances on the relation of mathematics to natural, including also therein what are commonly called artificial, phenomena. "The ancients divided mechanics into two parts—rational and practical; and since artisans often work inaccurately, it came to pass that mechanics and geometry were distinguished in this way, that everything accurate was referred to geometry, and everything inaccurate to mechanics. But the inaccuracies appertain to the artisan and not to the art, and geometry itself has its foundation in mechanical practice, and is, in fact, nothing else than that part of universal mechanics which accurately lays down and demonstrates the art of measuring." He next explains that rational mechanics is the science of motion resulting from forces, and adds, "The whole difficulty of philosophy seems to me to lie in investigating the forces of nature from the phenomena of motion, and in demonstrating that from these forces other phenomena will ensue." Then, after stating the problems of which he has treated in the work itself, he says, "I would that all other natural phenomena might similarly be deduced from mechanical principles. For many things move me to suspect that everything depends upon certain forces in virtue of which the particles of bodies, through forces not yet understood, are either impelled together so as to cohere in regular figures, or are repelled and recede from one another." Newton's views, then, are clear. He regards mathematics, not as a method independent of, though applicable to, various subjects, but as itself the higher side or aspect of the subjects themselves; and it would be little more than a translation of his notions into other language, little more than a paraphrase of his own words, if we were to describe the mathematical as one aspect of the material world itself, apart from which all other aspects are but incomplete sketches, and, however accurate after their own kind, are still liable to the imperfections of the inaccurate artificer. Mr. Burrowes, in his preface to the first volume of the "Transactions of the Royal Irish Academy," has carried out the same argument, approaching it from the other side. "No one science," he says, "is so little connected with the rest as not to afford many principles whose use may extend considerably beyond the science to which they primarily belong, and no proposition is so purely theoretical as to be incapable of being applied to practical purposes. There is no apparent connexion between duration and the cycloidal arch, the properties of which have furnished us with the best method of measuring time; and he who has made himself master of the nature and affections of the logarithmic curve has advanced considerably towards ascertaining the proportionable density of the air at various distances from the earth. The researches of the mathematician are the only sure ground on which we can reason from experiments; and how far experimental science may assist commercial interests is evinced by the success of manufactures in countries where the hand of the artificer has taken its direction from the philosopher. Every manufacture is in reality but a chemical process, and the machinery requisite for carrying it on but the right application of certain propositions in rational mechanics." So far our Academician. Every subject, therefore, whether in its usual acceptation, scientific or otherwise, may have a mathematical aspect; as soon, in fact, as it becomes a matter of strict measurement, or of numerical statement, so soon does it enter upon a mathematical phase. This phase may, or it may not, be a prelude to another in which the laws of the subject are expressed in algebraical formulae or re-

presented by geometrical figures. But the real gist of the business does not always lie in mode of expression, and the fascination of the formulæ or other mathematical paraphernalia may after all be little more than that of a theatrical transformation scene. The process of reducing to formulæ is really one of abstraction, the results of which are not always wholly on the side of gain; in fact, through the process itself the subject may lose in one respect even more than it gains in another. But long before such abstraction is completely attained, and even in cases where it is never attained at all, a subject may to all intents and purposes become mathematical. It is not so much elaborate calculations or abstruse processes which characterise this phase as the principles of precision, of exactness, and of proportion. But these are principles with which no true knowledge can entirely dispense. If it be the general scientific spirit which at the outset moves upon the face of the waters, and out of the unknown depth brings forth light and living forms, it is no less the mathematical spirit which breathes the breath of life into what would otherwise have ever remained mere dry bones of fact, which re-unites the scattered limbs, and re-creates from them a new and organic whole. And as a matter of fact, in the words used by Prof. Jellett at our meeting at Belfast, viz., "Not only are we applying our methods to many sciences already recognised as belonging to the legitimate province of mathematics, but we are learning to apply the same instrument to sciences hitherto wholly or partially independent of its authority. Physical science is learning more and more every day to see in the phenomena of nature modifications of that one phenomenon (namely, motion) which is peculiarly under the power of mathematics." Echoes are these, far off and faint perhaps, but still true echoes, in answer to Newton's wish that all these phenomena may some day "be deduced from mechanical principles."

In discoursing on the necessity of mathematics in connexion with the arts, he expressed himself thus:—Having more special reference to mathematics, I might confidently point to the accuracy of measurement, to the truth of curve, which according to modern investigation is the key to the perfection of classic art. I might triumphantly cite not only the architects of all ages, whose art so manifestly rests upon mathematical principles; but I might cite also the literary as well as the artistic remains of the great artists of Cinquecento, both painters and sculptors, in evidence of the geometry and mechanics which, having been laid at the foundation, appear to have found their way upwards through the superstructure of their works. And in a less ambitious sphere, but nearer to ourselves in both time and place, I might point with satisfaction to the great school of English constructors of the eighteenth century in the domestic arts, and remind you that not only the engineer and the architect, but even the cabinetmakers devoted half the space of their books to perspective and the principles whereby solid figures may be delineated on paper, or what is now termed descriptive geometry. Nor, perhaps, would the sciences which concern themselves with reasoning and speech, nor the kindred art of music, nor even literature itself, if thoroughly probed, offer fewer points of dependence upon the science of which I am speaking. What, in fact, is logic but that part of universal reasoning; grammar but that part of universal speech; harmony and counterpoint but that part of universal music, "which accurately lays down" and demonstrates (so far as demonstration is possible) precise methods appertaining to each of these arts? And I might even appeal to the common consent which speaks of the mathematical as the pattern form of reasoning and model of a precise style. Taking, then, precision and exactness as the characteristics which distinguish the mathematical phase of a subject, we are naturally led to expect that the approach to such a phase will be indicated by increasing application of the principle of measurement,

and by the importance which is attached to numerical results. And this very necessary condition for progress may, I think, be fairly described as one of the main features of scientific advance in the present day.

If it were my purpose, by descending into the arena of special sciences, to show how the most various investigations alike tend to issue in measurement, and to that extent to assume a mathematical phase, I should be embarrassed by the abundance of instances which might be adduced. I will, therefore, confine myself to a passing notice of a very few, selecting those which exemplify not only the general tendency, but also the special character of the measurements now particularly required, viz., that of minuteness, and the indirect method by which alone we can at present hope to approach them. An object having a diameter of an 80,000th of an inch is perhaps the smallest of which the microscope could give any well-defined representation; and it is improbable that one of 120,000th of an inch could be singly discerned with the highest powers at our command. But the solar beams and the electric light reveal to us the presence of bodies far smaller than these. And, in the absence of any means of observing them singly, Professor Tyndall has suggested a scale of these minute objects in terms of the lengths of luminiferous waves. To this he was led, not by any attempt at individual measurement, but by taking account of them in the aggregate, and observing the tints which they scatter laterally when clustered in the form of actinic clouds. The small bodies with which experimental science has recently come into contact are not confined to gaseous molecules, but comprise also complete organisms; and the same philosopher has made a profound study of the momentous influence exerted by these minute organisms in the economy of life. And if, in view of their specific effects, whether deleterious or other, on human life, any qualitative classification, or quantitative estimate be ever possible, it seems that it must be effected by some such method as that indicated above.

#### A SANITARY OFFICER FINED.

At the Petty Sessions Court, Athy, Mr. J. Clandillon, sub-sanitary officer, was summoned for opening, or causing to be opened, a gullet or drain in Nelson-street, and leaving same open for a period of six weeks without any barrier, light, or other precaution, to the danger and detriment of the public.

Mr. Clandillon—Under what act have you brought this prosecution?

Constable Kelly—Under the 17th and 18th Victoria.

Mr. Clandillon—Do you know that the sewer has been open for the past fifteen years?

Constable Kelly—I know nothing of the kind.

Mr. Clandillon—Well, if the police had been minding their business they would have known that it has.

Chairman—We will have no controversy of this kind.

Mr. Clandillon urged that the summons was informal, inasmuch as the complaint was only against "James Clandillon;" that made it a personal matter against himself, who only carried out the orders of the sanitary authority in what he had done.

The Chairman said the bench were fully aware that Mr. Clandillon was the officer of the sanitary authority.

Mr. Clandillon said the sewer was open for the purpose of having it inspected, and proper levels taken by their surveyor.

The bench did not consider it was necessary to leave it open for six weeks.

The court was here adjourned for a short time to enable the bench to see the sewer, and on returning,

The Chairman said if the sewer was left in the manner it was now in by order of the board of guardians, they deserved a great deal of censure, for it was in a most disgraceful state. Nothing could be more improper than to open a sewer like that, and take no precaution to protect the public for such a length of time. The order of the court is, that proper protection be at once erected, and we fine you, Mr. Clandillon, 1d., and costs of court.

#### HOME AND FOREIGN NOTES.

Mr. H. Gribble has been announced as the successful candidate in the competition to build the new Oratory at Brompton, which is intended to rival St. Paul's. Funds are pouring in for the purpose, and it is said that the Duke of Norfolk's donation would of itself be sufficient to build a church. Mr. Gribble is better known as an artist than as an architect. Our illustration with present issue bears, it will be seen, his monogram.

**THE INTERNATIONAL CONGRESS OF HYGIENE.**—This congress of sanitary reformers has been fairly successful, although the English representatives at the opening did not appear to be strong. A variety of questions bearing upon sanitary science and reform were discussed, including infant mortality, the adulteration of food, the pollution of water courses, unwholesome industries, the dwellings of the poor, and other kindred subjects.

**INTERNATIONAL CONGRESS OF SURVEYORS.**—This congress, which formed one of the series which was held at the Palais du Trocadéro, Paris, was convened by the Central Committee of the Surveyors of France. Representatives from England, Italy, Germany, Belgium, Spain, and Switzerland, took part in the proceedings. Questions principally affecting the interests of the profession were discussed. The English delegation laid before the congress a statement descriptive of the position and functions of the various branches of the profession in England. A banquet at the conclusion of the congress was given by the French committee to the foreign delegates.

**THE IRISH LAND ACT.**—On Saturday last judgment was given in the matter of the Harene estate, which came before the Irish Court in an appeal by the trustee for sale of the estate in Kerry, and on a second by Mr. S. M. Hussey, who had made a contract with the trustee to purchase the estate for £80,500 against an order of Judge Ormsby in the Landed Estates Court, refusing to accept Mr. Hussey's offer to dismiss the petition, and accepting a proposal of £81,000, made by Messrs. Lombard and Murphy, who alleged they purchased to protect the tenantry, and, under the Bright clauses of the Land Act, the Court of Appeal decided unanimously that Judge Ormsby's order should be set aside, and a conveyance be ordered to be made to Mr. Hussey.

**GREAT SOUTHERN AND WESTERN RAILWAY.**—The directors, in their half-yearly report, state that the new station works at the North-wall, for which contracts have been made, have been commenced, but cannot be completed as soon as was originally expected. The new works on the company's premises in Cork are being proceeded with, but the directors regret that those undertaken by the Cork Harbour Commissioners have not made much progress. The directors invited tenders for the erection of a large number of workmen's cottages along the line, but owing probably to the scattered nature of the work the proposals were not such as could be accepted, and the company have themselves commenced the buildings. They have agreed with the directors of the Castleisland Railway (extending from that town to Gortalea station, on the Tralee branch line) for the purchase of their undertaking for the sum of £18,000. The railway is 4½ miles in length, and the county of Kerry has guaranteed 4 per cent. on £20,000, which guarantee will remain in force on the transfer of this company.

**A WHITEWASH APPLICATION.**—Amongst the "Table Talk" of the *Telegraph*, we have the following:—Paddy Go-Easy had a great objection to wear a clean shirt on week days, and besides he did not like to use any farming implements that had not been patronised by his father. Paddy's paragon of a wife had much trouble in the education of her lazy husband, and bringing him to see the value of cleanliness. Unfortunately, there are too many of the Go-Easy family, and sanitary officers have a difficult card to play when dealing with them. Whitewash is an excellent thing when applied to walls, but we question the propriety of applying it, internally and externally, to human beings, as recommended by a sanitary officer in the County of Mayo. This official recommends "That any householder, whose house had not been whitewashed for two years, should be whitewashed both inside and outside." The outside part of the business will be plain sailing, but how is the brush to be used when the inside comes to receive its "coat!" The very idea almost takes away the breath. This is a remarkable suggestion; but it is even more remarkable that the guardians have actually given directions to have the novel whitewashing carried out. We shall await the result of the experiment with some interest. If successful, the "householders" in Mayo, will be the "observed of all observers."

**SHEFFIELD ARTISANS AT THE PARIS EXHIBITION.**—A committee of manufacturers at Sheffield have decided to send 19 artisans to the Paris Exhibition to report upon the exhibits in the trades to which they belong.

**THE HUMBOLDT MONUMENT.**—The monuments of Alexander and Wilhelm von Humboldt, the former by Professor Begas, the other by Herr Otto, will soon be erected, one on each side of the entrance gate to the Berlin University. Both monuments are in marble, and the figures are represented in a sitting position.

**THE NATIONAL ART COMPETITION.**—The exhibition of the works entered for the National Art Competition, 1878, was opened to the public on Tuesday, the 13th instant, in the Exhibition Galleries on the west side of the Exhibition-road, South Kensington. The exhibition consists of about 1,400 works, selected from 138,045 works sent up from 142 schools of art throughout the kingdom for the annual examination at South Kensington.

**SANITARY EXPENSES.**—The executive committee of the Dublin Sanitary Association met on Friday, when the following resolution was adopted:—"That this committee, having considered the resolutions recently passed by the Public Health Committee, in reference to a proposed retrenchment of sanitary expenses, owing to the existence of a large debt due to the Borough Fund, are of opinion that retrenchment should, in the first place, be effected in all other departments whose expenses are defrayed out of the said Borough Fund, and that during the epidemic of small-pox there should be no interruption of the sanitary measures at present being carried out in the city; that this committee are further of opinion that the Local Government Board should be requested to see that, if it became necessary to curtail the sanitary expenses payable out of the Borough Fund, ample means from some other source shall be forthwith provided to defray such expenses."

**A RELIC OF OLD PARIS.**—The last touches are now being given to the work of restoration of the keep of the Duke of Burgundy's Tower in the Rue aux Ours in Paris. The portion of the building referred to now forms part of the group of schools created by the city of Paris. It is a square edifice with embattled parapets. During a long time it was divided into small lodgings; in the great hall two storeys had been constructed; and the guard-room was turned into a storehouse for ironmongery. Now the whole place is restored to its original physiognomy, and all the partitions, &c., have disappeared. The staircase of this tower is of particular interest to artists and archaeologists. The stone column around which the steps wind is terminated in a capital of a block of stone, from which issued a representation of an oak tree, in the same material, the branches of which, covered with leaves very delicately carved, constitute the arches of a vaulted roof. According to tradition, John had the tower built after he had procured the assassination of the Duke of Orleans, and made it his principal residence in order to avoid a sudden attack.

**THE CARRARA MARBLE QUARIES.**—The *Engineer* in an article bearing upon the above subject says:—"The famous marble quarries of Carrara, although they have been worked since the reign of Augustus, and have furnished a steady and enormous supply to the whole civilised globe, seem to be inexhaustible. They compose an entire mountain range, and embrace every variety and quality of marble, from the coarse, common kind to the statuary marble, Monte Crestola and Monte Sagro yielding the largest and finest blocks. The blocks are detached, drawn out by oxen, and rolled down the hill. The quarries number some 500, only about 20 of them furnishing the marble used by sculptors. Most of the inhabitants of Carrara and the vicinity—some 6,000 workmen in all—are employed in the labour, at 2 to 3 lire—1s. 8d. to 2s. 6d. per day. The marble taken out during the year before last was about 120,000 tons, valued at 2,400,000 dol., of which 40,000 tons went to the United States. The export of marble to that country has increased immensely within 12 to 15 years, the third largest firm of marble quarry owners now at Carrara being American. The American consul there is a member of the firm, and his consulate is said to produce a larger income than any other in Italy."

**OLD ENGLISH TOWN HALLS.**—An interesting article appears in last week's *Builder* on the architecture of town halls. The following is a short extract:—"Before the classic period English county towns could show town halls, small, certainly, but of much interest and picturesqueness of character; so much so, that it is matter for regret that so many of them have necessarily been re-built,

or so much altered and added to as to have lost their original character. Some of those which still remain, or did remain within a recent period, we have occasionally illustrated. Among the ancient timber town halls those of Leominster, Kington, and Brecon are noticeable; and Norwich has a specimen of a small but interesting building of a more solid character, which has been added to without the destruction of its original features. But, unfortunately, the deficiency in accommodation of many of these interesting buildings has led to the necessity for supplanting them in modern times, and the same necessity has been felt in regard to some of the larger and more modern buildings of the classic epoch, not always on account of absolute want of space only, but owing to the almost entire disregard of convenience of planning and lighting in many of these latter buildings; in which, so long as the exterior displayed the desired symmetry and orthodox repetition of parts on each façade, the internal planning might take care of itself.

**PARIS NOTES.**—The French, at best, are not (says a correspondent of a daily paper) a very inventive race. Occasionally, however, they exhibit an originality in social matters in advance of us here. The movement set on foot in London to provide habitable dwellings for the working classes received its first incentive in the Peabody buildings. Those great brick structures, although exhibiting an exterior conceived in the very worst taste, possesses an interior cleanliness, rigidly enforced, which raises them far above the level of even middle-class lodging-houses. Copying the Peabody model, with some slight improvements, building companies are rapidly erecting here immense blocks of such like dwellings, designating them Palatinates, in which suits of rooms, numbering from two to five, can be had at rates varying from 3s. 6d. to 12s. per week. In those latter erections, decent poverty, limited means, and economic families secure a comfortable escape from the crushing taxation of this city, besides enjoying sanitary advantages of an exceptional order. The new move in the French capital, which has led me to make those remarks, is a happy and suggestive one. M. Albert Gigot, the Paris Prefect of Police, has, it appears, just taken rather a bold step in the philanthropical line. In the French capital it is not the custom for even the poorest to take lodgings by the week, or even by the month. Rooms are usually taken for three months, and paid for only on quarter days; the consequence being that on those much dreaded dates many families are unable to pay the necessary amount, and are consequently turned out on the pavement. M. Albert Gigot has decided that henceforth no such thing shall happen, except by the fault of these poor people. Whenever, through unavoidable causes, a respectable family is in such difficulties, it will only have to apply, a few days previous to the expiration of the term, to the police officer of the district, who will at once institute a private inquiry, and whenever the result of the same is found satisfactory, the sum wanted will be advanced. It need hardly be said that the measure is only applicable to really hard cases, and to quarterly rents varying from twenty to forty francs.

**A BOOK IN 5,020 VOLUMES.**—The great Chinese Encyclopædia recently purchased for the British Museum certainly ought to be a bargain. We cannot do for it as Macaulay once did for somebody's book—give its dimensions and its weight avoirdupois,—but 5,020 volumes for £1,500 certainly looks cheap. It no doubt would have been a good deal dearer but for the peculiar circumstances under which it was purchased. Mr. Mayers, our Secretary of Legation at Peking, had, it appears, to carry on negotiations not only with the utmost secrecy as regards the Chinese people, but had carefully to guard the fact of its being sold to a foreigner from the knowledge even of the vendor himself. The purchase was completed many months ago, but the transportation of this curious literary treasure had to be deferred on account of the setting in of winter, and not until two or three weeks ago was it received in Bloomsbury, where it is now in course of arrangement in the presses of the Chinese library, under the supervision of Mr. Douglas, the Chinese librarian. That it is a great acquisition seems to be very generally the opinion of all who know, or profess to know, anything of Chinese affairs, and if it really is what it purports to be, it cannot but be so. It is a work due to the wisdom and energy of Kang-he, whom all historians of China extol as the greatest and wisest of the Chinese Emperors. Kang-he was a minor when he ascended the throne, and the pupil of the great German mathematician, Adam Schaul, who for some time seems to have been superintendent of the Imperial Astronomical Board, and virtually Prime Minister of China. Schaul, in common with a great many more Jesuit missionaries, fell a victim to the jealousy of some persons of in-

fluence about the court, was seized, loaded with chains, and threatened with death—not by the youthful emperor, but by those who acted as regents during his minority. Schaul died under his ill treatment, but not before he had apparently exerted great influence on the emperor, who, when he attained his majority, reinstated the surviving missionaries in their various posts about the court, and tried the regents for their treatment of his great teacher. They were found guilty of having conspired against him, and they and their families were ordered to be cut into a thousand pieces. Kang-he no doubt imbibed his remarkable literary proclivities from Schaul in the first instance, and during his long reign of sixty years—from 1662 to 1722—would seem to have had several very striking illustrations of the dictum that knowledge is power. Even while engaged in continual warfare he is said to have published forty volumes of his own works, while during the more peaceful portion of his reign he issued some 160 more. Besides this, he conceived the plan of a great Chinese dictionary, and also set about the really remarkable undertaking now represented by the 5,020 at the British Museum. He was, it appears, a great admirer of ancient Chinese literature, and was deeply grieved to perceive that extensive corruptions were everywhere creeping into the texts of ancient works that were reproduced. To put a stop to this he determined to gather together in one authoritative work the entire mass of Chinese literature from the earliest times until his own day. It was a vast design, and was carried out with the ability for which Kang-he was conspicuous. A learned commission was appointed to collate and verify all Chinese works, and the Jesuit missionaries were simultaneously employed in casting a large fount of copper type. The collection and examination occupied the commission for 40 years, and before it was fully completed the wise old monarch died, leaving the completion of his great design to Yung-Ching, his successor, who signalled his accession by dismissing the missionaries as a dangerous and traitorous set; all but a few who were retained at court as indispensable to the carrying on of Kang-he's Encyclopædia, the printing of the almanack, and so on. The commissioners professed to have taken all works from about 1100 B.C. to 1700 A.D., and it is supposed that the whole Chinese literature of any importance before those dates is to be found embodied in these 5,020 volumes. The subjects are classified under six headings, under which are arranged writings relating to the heavens, the earth, mankind, inanimate nature, philosophy, and political economy. Very little seems to be actually known about the work, even the purchaser, Mr. Mayers, having, as it would seem, had to buy the books without having any opportunity of examining them. Tradition affirms that only 100 copies were originally printed, and that the type was broken up.—*Globe*.

## TO CORRESPONDENTS.

**A WORKING MAN.**—Your note in reference to the defects of some of the Artisans' Dwellings Company's tenements will be attended to in due time. Send particulars. Some correspondence intended for this issue we are obliged to hold over.

**RECEIVED.**—W. C. R.—An Architect (Cork).—C. D.—A Carpenter.—J. B.—Sanitis (It was exactly as you have stated).—M. D.—R. D. S.—B. A.—A Provincial Builder.—J. H.—S. M.—T. C., &c.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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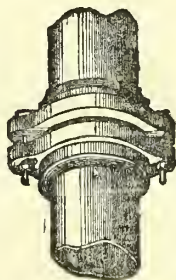
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Contents.

|  | Page |
|--|------|
| ANENT THE LATE MEETING OF THE BRITISH ASSOCIATION                | 245  |
| Public Works in Ireland—Second Article                           | 245  |
| Irish Architects and the Royal Institute of British Architects   | 247  |
| Notes of Works   | 247  |
| Kilkenny Interviewed   | 248  |
| The Museum of the Royal Historical and Archæological Association | 248  |
| Correspondence—  |      |
| Our Institute of Irish Architects                                | 248  |
| Professor Tyndall on Sound                                       | 248  |
| A Query for Handrillers  | 248  |
| Irish Board of Works Administration                              | 249  |
| Our Sea and Harbour Marks  | 250  |
| The Shannon—its Navigation and Drainage                          | 253  |
| Some Newspaper Cuttings of Forty Years Ago                       | 254  |
| Institution of Civil Engineers, London                           | 254  |
| St. Canice's Cathedral, Kilkenny &c.                             | 254  |
| Improvements in our Port   | 256  |
| Law—A Building Case  | 257  |
| Archæological Meetings   | 258  |
| To Correspondents  | 258  |
| Home and Foreign Notes   | 258  |

THE IRISH BUILDER.

VOL. XX.—No. 449.

ANENT THE LATE MEETING OF THE BRITISH ASSOCIATION.

**P**LEASANT memories will, no doubt, long survive of the meeting in Dublin of the British Association, 1878. As a demonstration, or a series of demonstrations, it satisfied many persons by the brilliancy and attractiveness of some of its surroundings, as it gave favourable opportunities to the fashionable part of society to see and be seen. As an intellectual display in the interests of science and social progress, the meeting of the British Association had its charms and opportunities for other classes of minds. To

review the work of the Association during its ten days in this city is a task we nowise desire to undertake, nor will we attempt to estimate the possible results. Speaking in a general way, we may declare that, on the whole, the Dublin meeting has been a success, and the members of the body and its friends have no cause to be other than well satisfied with their reception. The professional, scientific, and, indeed, all the learned bodies in Dublin have paid honours and feted and feasted the visitors. Protestant and Roman Catholic universities and institutions have opened their halls, and literary, art, and scientific societies and academies have shown their treasures and supplemented their honours by their hospitalities. The Press of Dublin has ungrudgingly given ample reports of the meetings, the papers read, the proceedings at the different *conversazioni*, and the nature and results of the various excursions made north and south of Dublin and through the neighbouring counties. Antiquaries, archæologists, architects, engineers, and social and sanitary reformers, in their different walks, have contributed their

local and general knowledge to entertain their visitors, and, it is to be hoped, left favourable impressions upon their minds, which they have carried home with them, that Ireland, after all, though situated by the "melancholy ocean"—to use the phrase of the Premier—is the very reverse of a melancholy place, even for the deeply studious to visit.

If our English friends of the British Association have treated us to copious draughts of science in the concrete and abstract, Irish intellects have returned them the compliment by mixing art and humour, practical economy, and native wit for their delectation. The President of the Association, in his opening address, spoke long and deep, and perhaps ambiguously for some minds, on art and mathematics, but, on the whole, he spoke well. Some of the addresses of the Presidents in the various departments were also excellent in their way; and though many of the papers read in these sections were of a purely speculative kind, several more were not, but evidenced considerable research, practical truths, and the undeniable laws by which truths were made clear and manifest to all intelligent minds. More or less speculation must always exist in connection with all branches of science. Mathematical and physical science has solved many problems, but the disciples of these sciences have still unknown fields to explore. Chemical science has worked several wonders in a short time, but there are many, very many mysteries yet to solve, and wonders to be made known in connection with its laws. Geology is still in its infancy as a science, although its foundations stretch back far beyond our ken to that still pre-historic and unreachable space where the mind is endeavouring to penetrate. Biology—a new worked science, taken together with zoology and botany, older and deeper worked fields—is yearly giving forth its secrets, and the mysteries and nature of the connection and alliances between plant and animal life.

We are not among those who fear for religion, let man delve ever so deep into the mysteries of this world, and the life that inhabits it. We would wish to put no restraint upon the studies of men, so long as they are legitimately exercised, and with the object of increasing our knowledge and benefiting our species. We are not constrained to believe all that even scientists utter, who are engaged in probing their way into unknown depths. We will listen to their deductions: it is our duty to give them a fair hearing. It is our duty and other men's duty to hold to our own opinions, so long as there seems to be truth and reason on our side; but it is our duty also to nobly surrender when incontrovertible laws and facts are accumulated against us. Geography, too, is a pursuit that ought to interest the many, and all know that it is yearly extending its conquests, whether of Africa or the North Pole we desire to hear more; and the same we may say of the depths of the ocean, and the earth upon which we move. From the earliest time the earth has given up metallic and other wealth; and deeper still than ever man has yet penetrated into its bosom there yet may be grand treasures in store for us. The deeper man delves the more he will know; the higher in the air or heaven's blue expanse he rises the newer will be the sights, and the fresher and more useful will be the knowledge obtained. To be sure some of man's efforts

may not compensate for the toil, the labour, and the expense, but the baulked mind can never be satisfied. To solve a mystery, even though its solution brings no great advantage, yet it brings a certain satisfaction and represents a conquest. Economic Science and Statistics is a field where much good has been achieved, and great good for the common weal may still be expected.

The social elevation and comfort of the human family, particularly those below us in the so-called social scale, are matters that ought to interest all men, irrespective of dignities, sect, or party. We truly must educate that we may be free, and the end of all education ought to be the lifting up of man, and the bettering of his social condition. Morality cannot well exist with the degradation of man's nature. Men well housed, well fed and clad, and fairly rewarded for their labour, have incentives for doing good and being concerned for the salvation of their souls as well as the care and safety of their bodies. Without education, men are slaves in a manner; and without health, life is miserable. Knowledge is truly power, and education is the lever that will lift up the fallen. Of Mechanical Science much might be said, but its benefits are obvious to the many. Its power is great, and extends in many directions. It, too, has made many conquests, and has yet many more to make by land and water, in ministering to public wants and carrying out public improvements.

In the interests of the above sciences, briefly outlined, the meeting of the British Association in Dublin has contributed a tangible something, which will be effective of general good. We cannot fix the amount of good that may have been done, for that must be measured by results hereafter, and in connection with other results proceeding from like causes. Some men only go to hear and have their ears tickled, while others go to listen attentively and be informed. Some read for a pastime, more for a profit. A number of addresses or papers read must be judged not by their quantity but by their quality, and on the latter depends the good they may effect either in conveying useful knowledge or prompting young aspirants to engage in similar pursuits.

The late meeting of the British Association suggested the few remarks we have made. There is no need to carry the subject further in connection with its proceedings. Elsewhere in our columns we give some portions of useful papers read during the sittings, and in conclusion we have only to say "All's well that ends well," and may the Association, so long as it is properly conducted, progress and prosper.

PUBLIC WORKS IN IRELAND.\*

SECOND ARTICLE.

THE works of repair and maintenance reported upon by Mr. Robert Manning, Chief Engineer of the Board of Works, includes, as usual, details respecting what has been done and in progress at the royal harbours, and the several fishery piers and harbours. The works at Kingstown, besides the ordinary maintenance include the re-construction of portions of the stone pavement of both piers, which was injured in the storm of January, 1877. During the late year reported upon, 22,000 tons of mud and sand

\* "The Fifty-sixth Report from the Commissioners of Public Works in Ireland," &c. Dublin: Alexander Thom. 1878.

were dredged out of the harbour. At Howth Harbour the maintenance and repair was more than ordinarily heavy, in consequence of the damage done by the storm of January, 1877. Donaghadee Harbour, County Down, suffered from the same storm. The work of the re-building of Ardglass Harbour commenced last October, and is being proceeded with. *Re fishery piers and harbours:* the work at Courtmacsherry Harbour, County Cork, have been completed. At Port Oriel, County Louth, some excavations remain to be finished. At Ballyvaughan, County Clare, the works at the pier are far advanced. Rathmullen Pier, Donegal, has been completed, and handed over to the county; and the works at St. Kieran's Harbour, Cape Clear Island, are being proceeded with. Communication with this island is, we are told, very difficult in winter, and is sometimes interrupted for days together. In reference to that bone of contention for a long time, the repair of the Blackrock-road, Co. Dublin, we find that the Board expended upon it, between June, 1877, and April, 1878, £2,113 4s. This included broken stones, carting mud, manual labour, granite crossings, plant and wages of overseer and clerk. The cost was, of course, levied by presentment—one-third upon the city and two-thirds upon the County Dublin. The Grand Jury have made arrangements now for the repair of the road for 1878-79.

In his annual report to the Board, Mr. Edward Alcock, the Harbour Master, Dunmore, gives, as usual, some particulars respecting the fishery interest. It appears that, during the season, from 18 to 20 large cutters were engaged in trawling off the harbour, but with very bad success, all descriptions of deep sea fishing having been very scarce. The smaller class of boats fishing within Waterford Harbour, as well as the shell fishermen, are reported as doing much better than their brethren, as they had an average season. In November, 1877, herrings struck upon the shore in considerable quantities, but the weather broke in three or four weeks' time, and the good hauls were at an end, the herrings having departed to other pastures. The present salmon season is reported as one of the best known for many years in the Waterford and Ross rivers, fish being plenty, of large size and prime quality. The market opened at 2s. 0½d. per lb., but came down afterwards to 1s. 2d., and at the date of the harbour master's writing, in the end of March last, the price was 1s. 4d. per lb.

The development of Irish fisheries is a question which always interested us, and for long years we have earnestly advocated the question in various ways. Improved harbours and piers, of course, give great facilities to fishermen, but in different parts of this country there is more energy as well as capital needed on the part of fishermen. Yearly hundreds of foreign fishermen make their harvests upon our shores. They succeed because they have better boats and fishing gear, and perhaps in some instances because they have more enterprise.

Captain Henry D. Burney, Harbour Master, Howth, reports that the take of herrings at this port was 20,000 mease less than in the previous year. The fishing continues to be vigorously pursued, and the harbour is frequented by an increased number of boats,—876 in the late year as compared with 850 during 1876. The harbour master

thinks that the take of fish would be much less, but for the winter fishing, which was resumed for the first time after an interval of five or six years. An increase of boats brings a great increase of men to Howth, and of course, these men need some wants which the town supplies. We would, at the same time, like to see the Howth fishermen increasing in numbers and studying their own interests a little better than they have been doing for several years past. Surely they are not going to rest for ever content in seeing such a number of Manx and Cornwall and other fishermen reaping yearly such good harvests without being spurred to a little more exertion to rival the strangers. Limestone, an export from Howth, has been discontinued during the year by the Earl.

The works of maintenance connected with the several inland navigations consisted, as usual, of repairs of lock gates, river walls, towing paths, &c. The gross of receipts of Shannon Navigation from all sources amounted to £3,786, and the charges of maintenance to £3,195, showing a surplus of receipts over expenditure of £591. The sum received in tolls was £1,130, against £2,146 for the previous year.

Passing on to the Appendix C, containing the Inspector's Annual Report in connexion with Landed Property Improvement, we have as a commencement a long report from Mr. Edward Murphy on the counties of Donegal and Down, with a portion of Londonderry. Confining ourselves to that part which deals with labourers' cottages and farm buildings, the inspector reports some cottages for Mr. Ward at Bangor, for Lord Bangor at the same place, and Mr. Beauclerk at Ardglass, which he says "in all cases good comfortable brick and brick and stone slated two-storey cottages have been built, containing from three to four rooms, with suitable out-offices, at a cost varying from £70 to £90 per cottage." The inspector thinks that the cottages built by Lord Bangor and by Mr. Ward are most suitable. Lord Bangor has remodelled his farm offices at Castleward, writes the inspector, "in the most complete manner, affording an excellent example of how money may be judiciously expended in this way. His cow-houses are admirably arranged; the drainage is all conducted to the liquid manure tank, and having a good supply of water at a suitable elevation; an arrangement has been made for flushing all the drains. His calf-house is one of the best I have seen; each calf has its own compartment formed of timber slots with about inch intervals. The floors are formed of chamfered brick, with sufficient fall to the centre drain; all the drains are well trapped, and the floors and drains can be flushed with water. The stables are also well fitted up. The place was overrun with rats before the improvements were undertaken; the floors were taken up and reformed with strong concrete, in which chamfered tiles were bedded, and the walls cemented above the floor line, so that the vermin have no chance of working their way in future."

Some particulars are furnished of planting, drainage, and fencing carried out on Colonel Stewart's property at Letterkenney, and of extensive plantation works by Sir Samuel Hayes on his estate at Stranorlar, over 200 acres of mountain land and cut-away bog. The inspector also furnishes some interesting particulars of and opinions upon the sea embankments being made along the Holywood

and Bangor coast. The land improvement works carried out by Lord Annesley in the County Down are spoken highly of by the inspector, his lordship being the only representative of the land improvement class at present in that county. These drainage, planting, road making, and fencing operations appear to be extensive, and are, no doubt, adding to greatly to his lordship's already extensive demesne. The inspector, in conclusion, thinks that if the facilities which the Land Improvement Act affords were sufficiently known by the landed proprietors they would more often avail themselves of means so easily attainable for improving their properties. On the whole, Mr. Murphy's report this year is a very instructive one, and no doubt a portion of it will be read with pleasure by the land owners whose improvements are so kindly and considerably described.

Mr. Thomas Irwin, C.E., reports upon the north-east district—the Counties of Antrim, Londonderry, Tyrone, and Armagh. The number of loans in this district is said to be worked up and closed in a most satisfactory manner, affording remunerative returns to the proprietors or tenants. Mr. Beatty's reclamation works at Bellisle, Upper Dunluce, County Antrim, are reported to be a success. Farm buildings in the district reported upon are on the increase, but the inspector would like to see what we ourselves desire—a greater willingness to erect labourers' dwellings. Without the increase of improved dwellings for the agricultural labourers and small tenant farmers, landed property improvement cannot be pronounced a real and practical success. To reclaim thousands of acres is, no doubt, a great benefit, but labourers' dwellings of a healthy, substantial, and comfortable character will need to be provided at the same time. Mr. Irwin says there is a growing desire evidenced in his district on the part of proprietors to avail themselves of the loans granted by the Board, but the high prices of labour have, in his opinion, kept back many from engaging in works of landed improvement.

Mr. Robert Stirling reports upon the district comprising the counties of Sligo, Leitrim, Fermanagh, Cavan, Westmeath, and part of Meath. The County of Leitrim has not afforded a single case to report upon, and in the opinion of the inspector there is not a county in Ireland in more need of improvement. He is surprised that loans from the Board are not more frequently applied for than they are. On inquiry into the matter in some districts, the inspector found that many of the people entitled to borrow, especially those of the tenant class, were not made aware of the fact that money can be so easily obtained for carrying out improvements. Others, it seems, were deterred by some vague idea that to obtain a loan entailed a great amount of trouble and expense. The inspector informs the Board that since his appointment he has used every opportunity of correcting this idea, and of making known in his district the Act, and the great advantages it offers. We hope other inspectors will do the same in relation to the landed property improvement services, and other services administered by the Board. In doing this duty the Board and their officers will only be carrying out the recommendation of the late Committee of Inquiry that sat in Dublin.

Mr. James Butler reports upon the counties

of Carlow, Kildare, King's, Queen's, Wexford, and Wicklow. His inspection consisted mostly of farm buildings and offices. He writes that in every case he found proprietors and tenants equally interested, and that the Acts are working advantageously for both. The works are being carried out satisfactorily. He hopes to see more advantage taken of the Act in the case of labourers' dwellings; but this is neglected at present in several instances, from the fact of the proprietors and tenants being unable to come to a satisfactory arrangement. He points out that "in some cases where labourers' dwellings have been erected the appearance of the country has been altogether changed, and the occupiers appear to be satisfied and comfortable." This proves what we have so often before stated. No class of the people can be satisfied who are badly housed. With the improvement of the dwellings comes the improvement of the man and the land.

Mr. William Bond reports upon the county Longford and part of Westmeath and Meath. During the past year in his district labour was more easily obtainable, but the weather was unfavourable for drainage operations and other land improvements. Some extensive main drainage works have been carried out in Longford on the property of Lord Annaly, and thorough drainage and fencing on the property of Mr. Cooke. In Meath, at Baltrasna, Mr. Matthew O'Connor has carried out some main drainage work, reported to be well executed, and the means of reclaiming many acres of waste and swamp. The inspections relative to farm buildings, residences, and labourers' cottages include no works of an extensive character. All the proprietors are said to be availing themselves of the advantages of the Act.

In concluding his report Mr. Bond says:—"the cost of materials, especially slates, which are still very expensive, and the excessive wages demanded by tradesmen, over whom it is difficult to have any control, have prevented many persons from attempting to build at present." It is clear, on the other hand, despite what Mr. Bond writes, that the building industry is at present very rife all over the three kingdoms. Landed proprietors object to pay high wages to unskilled as well as skilled workmen, and throw the blame on workmen. Workmen are not slow in reminding those who complain of their high wages that butcher's meat and other food is very dear at present, and growing yearly dearer, and that house rents are terribly high—which it must be acknowledged are facts. High wages is not an unmixed good, and the skilled artisans of our towns and cities think the increasing dearth of common wants affects them as well as other folk.

We must postpone until our next issue a notice of the remaining reports under the Landed Property Improvement Act, as also other services administered by the Board of Public Works in Ireland, including the report of Mr. T. N. Deane, already alluded to, on our National Monuments.

#### IRISH ARCHITECTS AND THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

On the 20th ult.—during the week in which the British Association was holding its sittings in Dublin—a small number of members representing our nominal institute in Dublin entertained Mr. Charles Barry, the President of the English body, and a few more visitors belonging to the architectural profession.

The professional dinner took place at Maple's Hotel, in Kildare-street, Mr. J. H. Owen, the architect of the Irish Board of Works, occupying the chair. After the usual greetings and loyal and professional toasts, Mr. Charles Barry, in replying on behalf of the Royal Institute of British Architects, took occasion during his remarks to refer to the position and scope of that body, and its representative character as the only incorporated society of architects. He is reported to have said that the single city of Glasgow sent more members to the British Institute than all Ireland put together, and he desired in future to see its council enabled to speak as the deliberative voice of the whole profession in the British empire.

Of course the drift of Mr. Barry's observations was understood and prepared for beforehand. In the little debate that followed, the subject was worked up to the desired point, which was nothing more or less than the old project, not of a joint membership and a professional affiliation in spirit, but a wholesale and absolute incorporation of the Irish Institute of Architects (if there be one) with the English Institute. That project, let us remind the reader, fell through twice already for the best reason in the world—one of them being that there was nothing of a truly representative character to incorporate, the Irish institute having no active existence in reality. There is nothing to prevent a number of Irish architects becoming members of the British Institute if they desire the honour, but it is sheer folly to be talking of merging subscriptions and effecting a union where there is nothing tangible to unite. As a preliminary we would advise our Dublin architects first to carry out the reorganization and reform that they told their professional brethren in Ireland they were engaged upon several months ago. When they do this they will have some basis to treat upon. We cannot be a party to any species of deception: no good will come of striving to blink a patent fact. The Irish Institute has been for a long time little more than a name. It has had no representative meetings, no papers have been read, no discussion has taken place, and, as far as the architectural profession has been concerned, there might as well have been no nominal institute, for its utterings have not been heard for many months. A few architects we know desire to be considered members of the English body, and some of these will be, we fear, after a while as reluctant to pay their subscriptions to the body abroad as they have been to the body at home. There is also a sad want of brotherly union among the profession in Dublin. Glasgow, to be sure, sends members to the British Institute, so do Liverpool, Manchester, Newcastle, and several other towns and cities, but the principal of these cities and towns also support their local body. Why cannot Ireland do the same? We have no hesitation in saying that it redounds to the discredit of the Irish—or, to speak more locally, the Dublin architects—that they will not support or keep alive a representative society in its capital. To save a few miserable shillings, and to obtain a little dignity, they would centralise Irish architectural interests in London. And, mark ye, some of these very men would protest with all their might against doing away with the Irish Viceregal Court, or centralising the administration of the Irish Board of Works, or other Irish State departments in London. Yes, these men would protect, for Ireland's sake, and for the interests of their own profession, all public boards sustained by State grants and public moneys; but when it comes down to their own representative body and soul, they would vote it away without scruple to others, being too indolent or miserly to exert themselves for its support.

It is not unlikely that before long an independent attempt will be made to organise a representative institute or society of architects in Dublin, embracing some members of the old body and a number of new men, among whom will be a strong muster of the provincial practising members of the profession. The mere enrolment of half a

dozen of members of the Irish profession in the books of the British Institute will not constitute an incorporation of Irish architectural interests. The extinction of the present nominal Irish Institute might, after all, be the best thing that could happen, for it must soon be decided whether there is going to be an awakening, or whether decomposition has set in. For ourselves we desire to see a cordial interchange of civilities, correspondence, and brotherly interests existing between the British Institute and any representative body that may exist presently or in the future in Dublin. But we protest against the wholesale centralizing or attempted incorporation of Irish architectural interests in England. If attempted, it will fail. Ireland in many ways differs in habits and manners, in thought and feeling, from Scotland, and even from England. Architectural practice in this country is, in several particulars, different from the sister kingdom. The very position of our island keeps intact many of our native peculiarities, and they cannot be rooted out abruptly without doing an injury. There are, we might have remarked, Irish and English societies of engineers and surveyors, and other kindred bodies, and they do not desire to incorporate themselves wholly with London bodies of the same profession, and be swallowed up. No, they manfully preserve their identity, and are yearly growing stronger. The robust and energetic Architectural Association of London has up to the present declined to have itself absorbed by the Institute of British Architects.

At an opportune moment we will return to this subject, for the information of others as well as a few of the wholesale centralizers in Dublin, who pretend to speak in the name of an Irish Institute of Architects, representing the profession in Ireland.

At the dinner alluded to in the above article, the following English and Irish members of the architectural profession are reported to have been present:—Mr. Charles Barry, President of the Royal Institute of British Architects; Mr. W. H. White, secretary of the same body; Mr. Robson, architect of the London School Board; Mr. J. H. Owen, architect of the Board of Public Works, Dublin; Mr. Deane, Mr. Lanyon, Mr. Wilkinson, Mr. Drew, Mr. Rawson Carroll, Mr. Carson, Mr. Henderson, Mr. Ashlin, Mr. Murray, Mr. Mitchell, and a few more whose names are not given.

#### NOTES OF WORKS.

**NEWTOWNBARRY CHURCH.**—The parish church of Newtownbarry was re-opened on the 14th ult. The west end has been considerably enlarged; the entrance doorway and gable are unique in design, white granite being worked in diaper. The memorial window is filled with stained glass, the subject being the Good Samaritan, as expressive of the character of the late Mr. Hall Dare, whose memory it is intended to perpetuate. The works have been carried out, under the superintendence of Mr. Robert B. Phillips, by Mr. Fairecloth, of Carlow.

**COLERAINE.**—Messrs. Higgins and Maxwell have been declared the contractors for a new Savings Bank at Coleraine, from the plans of Mr. J. H. Coyle, architect.

**ST. MATTHEW'S, IRISHTOWN.**—The select vestry have decided on accepting the tender of Mr. Pemberton, amounting to £2,520, for the proposed enlargement, it being the lowest. The work will embrace two new transepts, chancel, organ chamber, and vestry, and the renovation of the entire edifice. Mr. J. F. Fuller, Brunswick Chambers, is the architect.

**ST. MARY'S, CRUMLIN.**—This church, which has been closed for repairs and alterations, and for the reception of a stained glass window, as a memorial to the late Right Hon. Sir Frederick Shaw, Bart., will be opened on Sunday next. Mr. John Bell, Salem-terrace, was the contractor.

## KILKENNY INTERVIEWED.

PERHAPS of all the visits made by the members of the British Association and their friends, that to Kilkenny (in some special particulars at least) was the most interesting. The "Marble City" and the City of the Confederation, the centre also of many stirring events in our annals, has grand historic memories. Kilkenny, too, in our own times has contributed not a little, through the intellect of her sons, to the history and literature of Ireland. She has given poets, novelists, historians, archaeologists, antiquaries, and others to swell the list of our celebrities; and she has given birth to the Historical and Archaeological Association, which still lives, and which has during its existence of many years contributed powerfully to the illustration of our National Monuments and their preservation.

We much regret that we cannot, for want of room, give on this occasion some full details of the outcome of the visit of the British Association to Kilkenny, for not only her local history but part of our general history as well found able and valuable illustrators during the visit of the Association. The meeting or meetings, as a whole, were large and influential, and the proceedings deeply interesting. The local *Moderator* gives full details. St. John's Church was well described by Mr. J. Robertson, who gave its past and present history. The Castle and the Priory of St. John the Evangelist found an able illustrator in Rev. Father Neary, distinguished as a local historian and archaeologist. St. Mary's Church, the Tholsel, and the Corporation next offered objects of interest, and their stories were well told. Mr. Patrick Watters, M.A., Town Clerk, read a very interesting paper on Kilkenny history; and there is scarcely one more suited for such a task, for the municipal and public records of the city have been for generations in the safe custody of his family, and he has proved himself worthy of the trust. The members of the Association and their friends passed through High-street, and saw its antiquities and heard them illustrated by Mr. Robertson; and under a like guidance St. Francis Abbey and St. Canice's Cathedral were next visited.

At the Cathedral Mr. Richard Langrishe, C.E., read an address (which we print on page 254), giving a valuable and comprehensive account of St. Canice's from the earliest times till the present. The Black Abbey was next visited, where the Dominican Fathers cordially received the visitors. Rev. Father Callinan read a paper on the Abbey and Order. Next followed visits to St. Mary's Roman Catholic Cathedral, St. Kieran's College and Schools, the Museum, Kilkenny Castle, where the visitors were received in the picture gallery of the building by Marquis and Marchioness of Ormonde, Lord Arthur Butler, and Lord Arthur Grosvenor. Mr. J. T. Gilbert, M.R.I.A., author of the "History of Dublin" and other well-known works, was present, and described many of the ancient and historical records of the Ormonde family. An early proof of a forthcoming volume on which Mr. Gilbert has zealously laboured, in connection with the National Manuscripts of Ireland, was shown by him, containing facsimiles of letters, &c., of the date of 1680. The muniment room of Kilkenny Castle with its valuable documents is still in the hands of Mr. Gilbert. The visitors were entertained at luncheon by Lord and Lady Ormonde.

It was a matter of extreme regret to many

that the Rev. James Graves, to whom Kilkenny and archaeology owe much, was unable, through illness, to be present at the meetings of the association. Kilkenny has but recently lost one she could ill spare in the person of John G. A. Prim; but we hope she will long enjoy the services of the Rev. James Graves, who has indeed been the founder and mainstay of the Royal Historical and Archaeological Association of Ireland.

## THE MUSEUM OF THE ROYAL HISTORICAL AND ARCHAEOLOGICAL ASSOCIATION.

In a description of the visit made by members of the British Association to the museum of the Archaeological Society of Kilkenny, the local *Moderator* says:—

"Within its walls are treasured many valuable antiquities and curiosities, but since the illness of the great man who raised up the association, the Rev. James Graves, we might write up over the portals of Butler House 'Ichabod,' 'my glory is departed.' We have heard that it is proposed to remove the museum to Cork, and have the head quarters of the society in that city. We believe Mr. Caulfield is an able and learned man, but as we fail to see any one who would fittingly succeed the Rev. Mr. Graves, we would prefer to see the museum handed over to the Royal Irish Academy, where the labours of Mr. Graves and all that his genius has secured to us in this way would be under the protection of the State, and where the objects of the society would be, and are at present, well carried out."

We trust that the Archaeological Association will keep together wherever its head quarters may be fixed in the future; and as to the collection, we trust also it will be kept safe for the country.

## CORRESPONDENCE.

## OUR INSTITUTE OF IRISH ARCHITECTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I wrote to you several months ago to inquire what was being done by the Institute, so called, in the interests of the profession, or of architecture in the concrete or abstract. I asked was the Institute living or dead, and that if it was not in the latter state I hoped that it would afford the profession some evidence of its activity or vitality. The Institute, however, has since shown no sign of life—except I take note of that little dinner and private discussion that took place during the week the British Association was holding its sittings. The assembly of a few Dublin architects in a fraternal way surely does not constitute the voice of a representative institute. I see too, by a communicated report in your professional contemporary across the channel, that the old scheme of incorporation with the Royal Institute of British Architects was brought up at this dinner meeting. I thought that scheme had already been knocked on the head, and was thoroughly exploded. Really I am ashamed of my professional brethren in Dublin, who, while they are pretending to be members of the Irish Institute of Architects, and append the initials of the Institute, so called, to their names, will not, by contributing a few shillings in the year, keep that Institute alive. The iron I fear has entered the souls of many of our Dublin architects. They lack the public and professional spirit of practitioners in many of the cities and towns in the sister kingdom, who, though they may become members of the London Institute, still support and yearly enlarge the usefulness of their local societies. Alas for "dear dirty Dublin," she has indeed fallen on evil days. Were Francis Johnston or Sir Richard Morrison alive they would indeed weep for the degeneracy of their architectural brethren. The first founded an Academy of painting, sculpture, and architecture, hoping that it might have realised his wishes in aiding the arts represented. How far it has succeeded it is scarcely worth relating—but who are at

fault? The founder is surely not to blame. Sir Richard Morrison was a member of the first Institute of Architects founded in Dublin nearly forty years ago, and he stood up manfully for Irish architects and artists. Who killed the first Institute? Why did it collapse? It may be answered—For similar causes that have contributed to the killing of the present Institute. And I am not quite sure but some of the men who helped to kill the first have done their best to slay the second by their parsimony, indolence, want of spirit, and for other reasons that need not be particularly described at present. Our Dublin architects, with a few exceptions, sir, are a sorry lot, and reflect little credit on their country or their profession.

AN ARCHITECT.

## PROFESSOR TYNDALL ON SOUND.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Seeing a letter from Professor Tyndall in a paper lately relative to a previous communication of his as to the effect of the state of the atmosphere on sound, led me to refer to the "Year Book of Facts," &c., for 1874, in which some experiments of the professor's are given, showing that hot or cold air ascending or descending greatly impedes the force of sound, so that what could be heard 12 or 13 miles at sea, while the air was still, vertically, could not be heard at two or three miles when the air was in motion, vertically, although otherwise calm and clear; in fact, his experiments seem to prove that foot lights in a theatre must greatly weaken the force of sound from the stage. I am not aware that this has been noticed before, so perhaps you would call attention to it, that it may be tested. M. M.

Limerick, August 29th, 1878.

## A QUERY FOR HAND-RAILERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I would like to ask some of your readers—practical carpenters and experienced staircase hands—whether the twist or wreath of that portion of the handrail which winds round and over the cylinder according to its pitch, should not twist in every portion of its section, from its spring line on the straight part of the rail, below the cylinder, to its joining with the straight part of the rail above the cylinder, i.e., over the flight above. My opinion—in theory, at least—is that it should, though in practice it is dispensed with. The sides, top, and bottom of the twist should be in *globo* geometrically a twist. To make myself more clearly understood, let us suppose, instead of worked as usual, or worked as complete circle, the twist was worked in the octagon form, then, according to my theory, all the squares of this octagon would be a series of spirals, each a regular twist. The difficulty of getting out the twisted part of the handrail in this way can be seen at once by the practical carpenter or staircase hand; but, apart from the difficulty, I am inclined to hold that a "twist" of the nature I have described would be in theory geometrically correct, though it might not be advisable in ordinary cases to resort to it in practice. A CARPENTER.

[Our correspondent puts an ingenious and sensible query to his brethren in the building trades which we hope some of them will think it worth their while to further elucidate. In theory we are inclined to think that our correspondent is right in his views.—ED. I. B.]

SCOTCH ARTISANS AT PARIS.—The Committees of the Edinburgh Town Council, the Chamber of Commerce, the Merchant Company, and the Scottish Society of Arts, have resolved to send representatives of the following trades to the Paris Exhibition—cabinet-making, upholstery, lithographic printing, glass-making, brasswork, engineering, jewellery, and house-painting. The entire expenses of the workmen sent out are to be defrayed out of subscriptions placed in the hands of bodies already named.

# IRISH BOARD OF WORKS ADMINISTRATION.\*

THE holding of a private appointment and a public one may be defensible under some conditions, and the question arises, is the position of the architect of the Board of Works an anomalous one? Does his connection with the Civil Service Building Society render him less fitted to perform his duty as architect of the Board of Works? Would it be better for him to cut his connection with the outside society and confine his whole and undivided attention to his duties at the Board, or take his pension as a servant of long standing of the Crown and retire, and as a free individual devote the remainder of his life to whatever interest served him best? We might put several other queries, but as we prefer to leave the answering of the above to others, it is not necessary to extend the list. This much, however, we may say, that any Government official who receives a fair or liberal salary for his services should not place himself in a position in which his actions are liable to be misinterpreted. There are under officials, clerks, and assistants, who receive miserable salaries, and they are scarcely to be blamed for supplementing their small incomes by rendering service to interests outside their Government employ. But in the case of officials at the head of public departments, on whom devolve serious or important responsibilities, the case assumes a different complexion. Personal necessities is not here a factor with the individual; but the securing of a public official of note by a public body or company outside, is a factor with them, for reasons that are obvious. The Committee in their report conclude their remarks on the subject of the Labouring Classes Lodging Houses and Dwellings' Act, Ireland, in these words:—

"While on the subject of the Labourers' Dwellings Act, we have to observe that we consider it a matter of regret that the Board's architect, Mr. Owen, who, among his other duties, has to advise the Commissioners on the operations of that Act, should in spite of the Treasury Minute of the 31st of August, 1846, hold the position of chairman of a building society. We are aware that in any circumstances there are strong objections on the part of your lordships to members of the Civil Service having any recognised connexion with private enterprise. These objections become stronger when it is considered that the interests of the private business with which the servant of the Crown is connected may conflict with the interests of his public duties; and we think the case of Mr. Owen is not unexposed to this danger. It is in evidence that Government loans for cottages compete 'in a certain sense' with the operations of building societies, and we cannot admit the force of Mr. Owen's argument that his connexion with one of the societies is likely to make him 'a better officer of the Board.' We think, therefore, that as private interests must be made subservient to public interests, the architect should even at personal sacrifice be required to withdraw from the direction of the Civil Service Building Society."

Perhaps it would be as well we should quote also here the Treasury Minute of 1846, above alluded to:—

"In order to obtain for the public the full advantage of the service of the Commissioners and its officers on their establishment, and to secure general confidence in their proceedings, their lordships consider it to be indispensably necessary that no person on the permanent establishment of the Board of Works, from the Commissioners to the most subordinate officers, should be at liberty to accept of any private employment. The Commissioners will promulgate this rule to the department, and any person not willing to abide by it must resign his appointment."

It is thirty-two years since the above Treasury Minute was promulgated, and most

people who know aught of Government appointments, know that the minute to all intents and purposes has been a dead letter in many Government departments. Not only have heads of departments under Liberal and Conservative Governments held outside appointments or positions, but scores of subordinate officers also. In London at present there are Civil Service co-operative stores and cognate organisations worked by servants of the Crown, and in many of the Government departments we have not only professional men doing public and private business, but we have numerous clerks writing for the Crown within and the Press without, or for both at one and the same time. We cannot defend these wholesale systematic operations, but we thought it as well to allude to them when certain defects of the Irish Board of Works are brought before the public in a Blue Book. We go in for giving all civil servants of the Government fairly remunerative salaries; let every department be fully manned; let promotion be justly carried out, and the same principles be applied in London and Dublin departments. Her Majesty's Board of Public Works and Buildings in London has several serious defects in its administration as well as the Irish Board; but, as two blacks will not make one [white, we do not desire to lessen the faults of one by publishing the faults of the other in detail. By all means let the Treasury Minute of 1846 be rigidly enforced; but as a matter of fair play and honourable dealing, it should be enforced at one and the same time in England.

Under the head of Sanitary Loans the Committee in their Report deal with several matters, such as loan facilities under the Public Health Act of 1874, the Board's responsibilities (which they consider insufficiently defined), the divided authority of the Board with the Local Government Board. The Committee consider the present arrangements unsatisfactory in theory, and a total failure in practice. They say:—

"It appears to us that the Local Government Board are the natural and proper authorities to be administrators of the Public Health Act. They are necessarily in constant communication with local sanitary bodies. They are best able to form a competent opinion on sanitary requirements. At present, however, their engineering staff is insufficient, and the Local Government Board does not appear to have availed itself to any extent of the powers delegated to it by the Treasury in going outside the department for help. The consequence has been waste and inefficiency on sanitary works, and much public dissatisfaction. The Local Government Board seems to have disregarded the injunctions of the Treasury, that representations submitted to it by local authorities in correspondence and plans of proposed works should be verified on the spot by some officer acting for the Government before loans were sanctioned. We think, then, that they alone should assume the responsibility of sanctioning schemes for sanitary purposes, and that it should be left to the Board of Works merely to satisfy themselves that the security was good."

The Committee, though they say the Local Government Board should assume the responsibility of sanctioning schemes, define what sort of limited responsibility it should be. The Committee, to use their own words, "do not mean to imply that they (the Local Government Board) should thereby be held in any degree accountable for the way in which the works are carried out."

The employment of approved engineers is recommended by way of affording additional security to the ratepayers against defective plans and bad workmanship, and against estimates being exceeded. Further on the Committee in their Report say:—

"Had the respective duties of the two public departments been better defined, and the measure of Government responsibility better understood, we think there would have been less ground for the complaints of Mr. Fisher, of Waterford, in connexion with the loan towards providing new waterworks for that town."

Some defects are pointed out by the Committee in the Public Health Act, which need amendment. They think the Irish act should be so amended as to secure the practice under it being assimilated to that which is now in force as regards sanitary loans in England. In reference to the complaint of Mr. M'Evoy, as one of the Kingstown Township Commissioners who characterised the action of the Board of Works as an "obstructive policy," in connection with the main drainage of the township, and *re* the sewerage schemes of Mr. Hassard, C.E., and Mr. Doyle, the Local Surveyor, in 1872-3, the Committee remark:—

"As the scheme affected property in charge of the Board of Works, that Board had to be consulted; and the Commissioners of Public Works, though they declined to advise on the merits of the two schemes, stated that they would offer no opposition to any project of the local authorities, provided it did not entail too large a discharge of sewage on the West Pier. This seems to us to have been only a proper precaution for the Board in discharge of their duties to take. It may have tended towards the plans falling through. But it appears that there was a division of opinion among the different local authorities as to the merits of the rival schemes; and it does not seem to us that a public board, having no further interest in the matter than to prevent the property under their care from being injuriously affected, and to protect the public from annoyance, is called upon to interfere in public disputes."

The conclusion of the Committee in the matter of Sanitary Loans is thus stated:—

"That effect may be given to our recommendations, it will be necessary to amend the present law relative to loans for sanitary purposes, and we advise that the required amendments should, if possible, be embodied in the Consolidation Bill now before Parliament."

We hope these recommendations have been attended to in the Public Health (Ireland) Bill of the late session.

Colonel M'Kerlie, in his "Statement," briefly deals with the remarks of the Committee under the head of Sanitary Loans. He thinks that—

"No actual reflection is made on the Board's action in respect of these services, though it is yet intimated that on certain matters they might have sought for instructions with a view of more widely extending the Act. I can but say that it has been the anxious desire of the Board to remove any difficulty and grant every facility for the extension of the object of the Act up to that point, where, as in the case of Kingstown, rival parties proposed different schemes, their giving their opinion in favour of one object and not in favour of another would, in the event of an unsatisfactory result, have involved the Government in the responsibility. In the Kingstown case, it may be observed, the drainage project has not fallen through (see paragraph 54), but is about to be carried out according to the West Pier plan, to which their lordships' assent has been asked for and given."

*Re* Railway Loans, we can only take note of the Rosslare Harbour Railway case, arising out of a refusal of the Irish Board to grant a loan, the application being in connection with a projected branch line from the terminal harbour at Rosslare, in Greenore Bay, to Wexford. In the course of their report the Committee say:—

"No fault can be found with the Board of Works for proceeding cautiously in the case of an undertaking in which public money is sought to be embarked. On the contrary, they are bound to see the sufficiency of the security before they can properly recommend an application to the Treasury; and the circumstances of the case in point were certainly not calculated to remove immediately any doubts they might have entertained in regard to it.

\* See ante.

But there is a great difference between approaching a question with caution and deliberation and wavering between two opinions. We hold that when once the Board had told the directors the conditions with which they would be satisfied, it was plainly their duty to have recommended the loan to the Treasury."

The Committee hold that the Irish Board had, in fact, committed themselves by the advance, and that the least they might have done would have been to represent strongly to the Treasury the special circumstances of the case, and the probable consequence of a refusal. The Committee point out also that the harbour was being constructed with public money, the security for repayment of the money rested solely on the success of the harbour, and the success of the harbour depended mainly on the completion of the branch line. A refusal to make an advance therefore, in the opinion of the Committee, was endangering the safety of the public money, which must have been a consideration that would have weight with their lordships of the Treasury,—

"We think, then," continues the report of the Committee, "that the Board of Works have clearly committed an error of judgment in not taking upon themselves to point out this instance, in which the directions of the Treasury, if strictly complied with, would have a prejudicial effect not only in the interests of individuals, but also of the public. It should also be observed that there was a serious delay in the Office of Works at a period of the year when delay was very prejudicial to the contractors and to the gentlemen who had made themselves personally responsible. We beg to recommend that the case of this rejected loan may be reconsidered."

In a foot-note to the Report at this point we were glad to find the Committee say:—

"We understand that since the drafting of our Report the Treasury has anticipated our recommendation by sanctioning the grant of the loan on the terms proposed and accepted by the directors in 1875. This bears out the opinion we expressed in the previous paragraph of the Report, as to the view the Treasury would probably take, on the facts of the case being represented to them."

In his "Statement," in reference to the above railway loan, Colonel M'Kerlie, Chairman of the Board, makes the following remarks in answer:—

"In that case I would refer to the evidence, and would respectfully beg to observe that at no time did I waver in my opinion in regard to the matter—an opinion in which both of my colleagues most fully concurred. From the first it was considered a speculative case, and one in which but for the assistance granted by the Public Works Loan Commissioners, we would not have felt justified in recommending the loan applied. The delay complained of did not arise with the Board, but was due to the time (six months) which the applicants took to reply to the proposition made in September, 1875, and during which time the special instructions of the financial secretary of the Treasury altered the requirements of the case. Subsequently to receiving the reply of the railway company to the new conditions which they were unable to comply with, a few weeks' delay—occasioned by pressure of work, as far as I recollect—occurred with myself in determining the course to be taken; a delay, however, which I was on the point of terminating by submitting anew the case to the Treasury, with a recommendation that under the special circumstances of the case the new condition might be dispensed with, when an application from the railway company for the return of a particular paper, which could only be regarded as indicating an intention to seek a loan from other sources—and which paper was accordingly returned—caused the further consideration of the matter to drop. From that time to the sitting of the Committee, when the complaint was brought forward, nothing further was heard on the subject. On that occasion, however, the impression that the loan had been absolutely refused was removed, the result being a further application to the Treasury, which, on the Board's recommendation, has been granted. I venture to submit, therefore, that the difficulties which arose in this case, and the delay in arriving at a settlement, are not such as the Board can be held responsible for."

We have, the reader will see, given the conclusion of the Committee, after weighing the evidence given in the above case, and also the explanation of the Chairman of the Board in his "Statement" published after the issue of the Blue Book. As we are not interested in prejudicing the Board, or any official of the Board, we will allow others to draw their own conclusions. The Chairman of the Board affords an explanation that may or may not carry satisfaction to the mind, according to the light that it may be viewed in. Delays certainly occurred, but they now appear to have been unavoidable from the course taken. If the Board came to the conclusion that it was a purely speculative case, then we agree with the Committee that they acted right in proceeding cautiously; but the Committee charge the Board with wavering "between two opinions," an accusation which Colonel M'Kerlie stoutly and respectfully denies. Whatever opinion may exist in regard to the administrative defects of the Board of Works as a whole, we are not of those who would charge all such defects on one or two of its officials. There are existing defects which are long inherent to the Irish Board of Works; they have taken root in its system, and we hold that they can be easily eradicated without acting injuriously to its officials. On this head, however, we will have further to say hereafter.

#### OUR SEA AND HARBOUR MARKS.\*

(Continued from page 220.)

FROM reasons that I have before stated (*i.e.*, liability to "striae" and costliness), flint glass has not been used for lighthouse optics, excepting in a few instances, which were more experimental than otherwise, as in the manufacture of the catoptric or totally reflecting mirror made for Messrs. D. and T. Stevenson, the Engineers to the Board of Northern Lights, in 1862. The mixture employed, as given by Mr. D. M. Henderson in a paper read by him before the Institution of Civil Engineers in 1868, was:—

|                 |    |    |       |      |
|-----------------|----|----|-------|------|
| Sand            | .. | .. | lbs.  | ozs. |
| Red Lead        | .. | .. | 400   | 0    |
| Potash          | .. | .. | 220   | 0    |
| Bristol Lime    | .. | .. | 112   | 0    |
| Nitrate of Soda | .. | .. | 2     | 0    |
| Manganese       | .. | .. | 7     | 0    |
| Cullet          | .. | .. | 0     | 1    |
|                 |    |    | 280   | 0    |
|                 |    |    | 1,121 | 1    |

which gave a refractive index of 1,579. A previous experiment made with a mixture containing 20 lbs. less red lead gave 1,568 as the index.

For either crown or flint glass the methods of grinding are the same, and are carried out in the same manner at the works of Sautter, Lemonier et Cie., in the Avenue Suffren, Barbieri et Finestre et Cie., Rue Curiel, and M. Henry Lepaute, in Paris. These several works are branches of the original manufactory of M. Francis Soliel, afterwards M. Theodore Letourneau, of which the only copy now in England or as yet in Ireland is that attempted at Birmingham, with what success I leave to the judgment of those who are competent to form an opinion.

The angle of greatest intensity with that of greatest and least divergence were successfully determined originally by Fresnel to suit the six orders of lights of the French department, and the four-wick and smaller burners having each a constant diameter, all the calculations for grinding the lenses remained as originally determined, if we except a stupid attempt to out-do the great philosopher by introducing a six-wicked burner (I don't allude to the Farquhar), which has been a wretched failure, only useful as shewing the value of Fresnel's con-

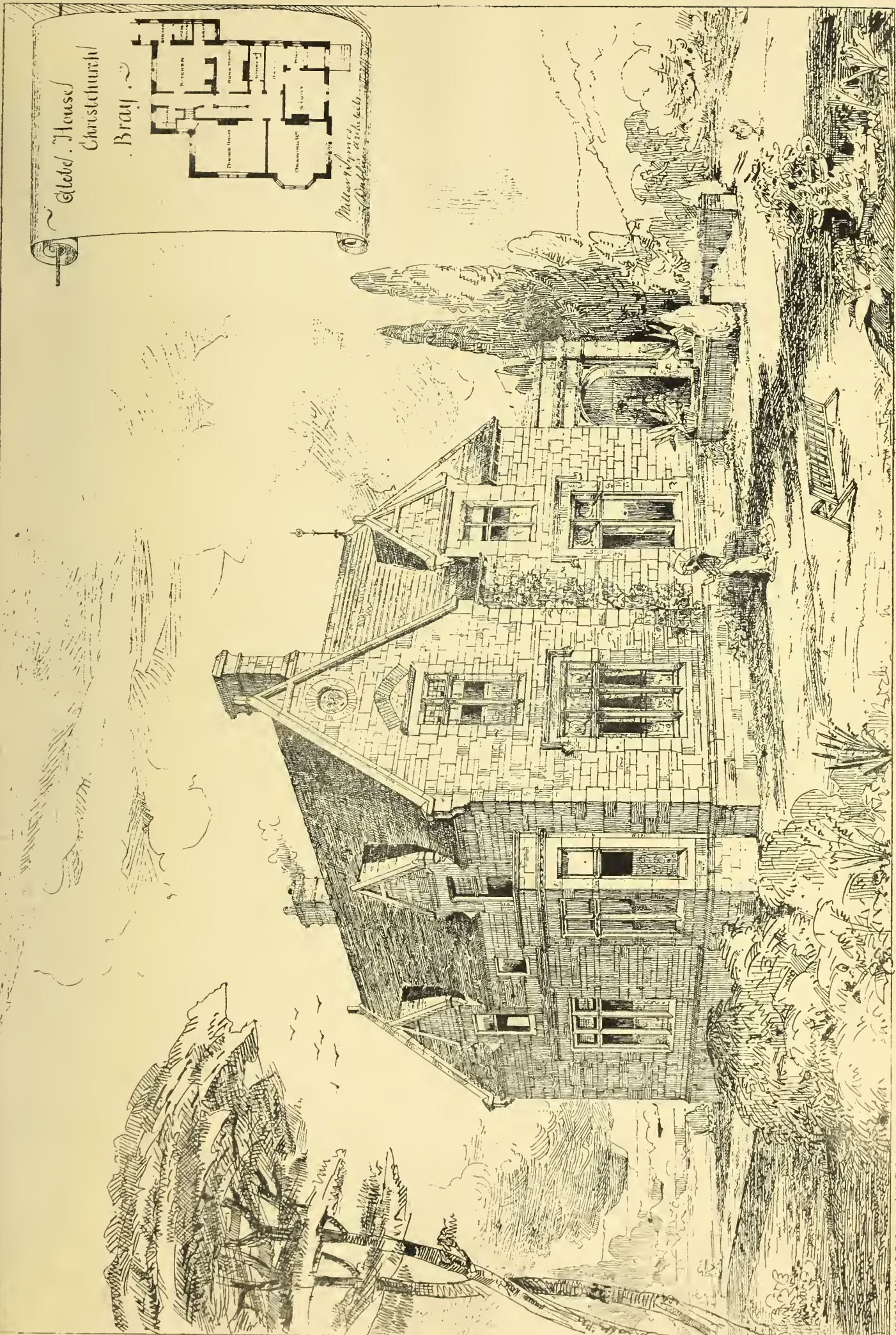
clusions, and by extraordinary breakages, giving employment to the chimney-producing glass blowers.

To meet the requirements of the gas light will demand another arrangement, as the diameters of the burners vary from 3.768 to 12.743 inches, and the lenses lately ground for the great light at Galley Head, in the County Cork, were modified both for increased strength and height of flame and diameter, so far as the more frequent arrangement of the 28, 48, and 68 jet burners. Some years ago an arrangement was designed for moving the lenses simultaneously with the addition of the rings of jets, so as to get in each case the maximum of intensity, but although the invention was presented to the Board of Irish Lights, being *merely* "Irish," no more was heard of it. This would not have been the case had it come from Tower Hill or Blackwall! However, such provision must be made if lenses are to be used with gas flames, and not only a vertical but an horizontal movement will be required to meet the different foci, particularly in apparatus having hypopyral and hyperpyral prisms; the vertical movement can be obtained without much trouble, by simply setting each mercury cup so many millimeters lower as it recedes from the centre, and the substitution of a longer radius for the annular lenses (as was done for Galley Head) can provide an average angle of dispersion for the three burners of from 28 to 68 jets, beyond which the lenses should be moved laterally.

The arrangement of horizontal revolving tables, with the accompanying levers and arms for grinding the lenses and prisms for a lighthouse optical apparatus, does not call for any stretch of mechanical science or acumen beyond the accuracy of fitting and finish inseparable from all good machinery. Any hitch in the motion would be ruinous to the work, and could not be detected till the mischief was accomplished; and although at the first sight of the workshops one would hardly imagine that such was the case, extreme cleanliness is most requisite; each process has its own particular medium for grinding with, and thus, whether it be the washed sand of the shores of Picardy, the emery of Naxos, or the peroxide of iron of England, each in its turn must be carefully removed as its work is performed, before the succeeding substance is introduced. The central lens of the annular series is fixed on its bed, and the grinders have a rotary motion, but the corresponding portion of an apparatus for a fixed light, although of similar section, being produced beltwise, is ground fixed on its edge on a revolving table against a fixed or slightly and gradually moving grinder. To describe the process without the aid of diagrams or drawings is somewhat difficult, and liable to lead to prolixity, but I must endeavour to do the best I can under the circumstances. The glass having been manufactured and brought to the state of complete clearness and homogeneity, for which the St. Gobain Works are so remarkable, is cast or run into moulds exceeding by about six millimeters the sectional measurements of the intended lens or prism. This has been found necessary in practice from the difficulty experienced at all times in producing regular castings, and the frequent accidents which occur in the beautiful and fragile French glass, but to which the English product (being so much more coarse, heavy, white, and comparatively ductile) is less liable.

The first object to be attained with each portion is to secure a base for the subsequent operations, and this is done by first removing the arris or edges of the angles of the pieces (the casting is at this time known as *brut*, a technical term applied indifferently by the French to all crystals whether of stone or glass in the rough), and also to bring each piece to its proper size by removing whatever of over length it may have, so that when placed end to end all may form a perfect circle, whether of a catoptric zone or refracting belt, and all must be so set on the revolving table, that the over length and

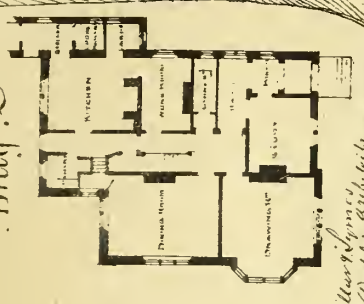
\* Written for the IRISH BUILDER by an old Lighthouse Engineer.



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excess of section will when removed leave a perfectly clear and polished surface free from flaw or scratch.

I have remarked in the specimens I have been permitted to examine in the Department des Phares, in the Roi de Rome in Paris, an absence of the defects in the "cushion polish," which I have too often observed elsewhere. Mr. Edward Sangs' invention—by which he produced, in 1837, the annular lens for the light at Kirkcaldy Harbour, although a very beautiful arrangement, novel and ingenious for that date (and by which much of the glass of the Messrs. Cookson, of Newcastle, was manipulated), did not always succeed in this respect; and it is only the practised eye will detect the blemish, especially by daylight, but the gas light is an expert tell-tale in all such instances. A small toy camera obscura of the old-fashioned style of my young days, with the mirror set at an angle of 45°, is also an admirable detective.\*

By the kindness of MM. Barbiero et Finestre, who had portions of glass polished especially for me, I have been enabled to investigate not only the excessive transparency of St. Gobain glass, but the excellency they have attained to in the "cushion polish;" pieces of glass of 7 and 8 in. in thickness being so clear as to offer no impediment to vision, the smallest print of a Northern Bank note being as discernible and readable as if no such medium intervened. I have had no similar opportunity of examining English glass.

The arris having been removed, the reflecting side of the prism is next ground by hand on a flat surface of metal, a large piece of pitch and plaster of Paris being attached to hold it by; this being laid on whilst warm takes a firm grip of the *brut* when cold. The metal plate revolves slowly; and the workman, by pushing the piece backwards and forwards on the lathe, which is charged in the first instance with wet Picardy or County Dublin sea sand, brings it to a level surface ready for the next stage. The lathe bed is then carefully washed to remove all vestiges of sand, and the next operation with emery is proceeded with. This takes some time, as there are five degrees of emery, and in their use lies one of the superiorities of the French workman, the knowledge of where each degree should end and another begin being only attained to by practice and long experience. The grinding of the base surface being completed, a movable ring, secured by screws to the bed-plate of the lathe, is slightly heated on a charcoal stove. This ring is, in its way, a curiosity, being formed alternately of ordinary brass, wrought-iron, and gun-metal, each portion breaking joint and having a freedom of sliding on its neighbour of two millimeters in its length—an arrangement found to be practically sufficient to counteract any injurious effects of contraction and expansion. The section being marked in red chalk on the end of each prism, and the grinding levers being each furnished with slow and rapid screws (the former having micrometer heads), the different pieces are set in pitch and plaster on the compound circle, which has been screwed in its place, and the softened cement allowed to cool.

In some of the earlier apparatus it was thought necessary that each piece should be ground with curved surfaces in section, which led to great trouble, loss of time, and occasional breakage from the difficulty of securely bedding the prism so as to present two of its three surfaces to the grinders, and was abandoned, the practice for many years being to grind to the tangents or chords of what would otherwise be the curved surfaces. The prac-

tice in some of the French *ateliers* is to attach a rubber in the second stage to a very long lever, which gives an imperceptible curve sufficient for sharpness and to prevent that convexity to which all ground surfaces, whether produced by manual labour or machinery, are liable; but this is too slight to interfere with the secure setting of the glass on the lathe.

In mentioning the sea-sand of the County Dublin I should also have explained that pounded freestone is largely used, and is found less destructive to the tools than the silicious sand, and is rapidly superseding its use. The five degrees of emery powder are obtained by five successive washings; the finest and last, which gives the finish before the polish, being known as *douci*, and is drawn off after ten minutes' suspension.

Before applying it or any of the succeeding degrees the greatest care is requisite to ensure the absence of any of the coarser particles, the glass in each stage as it approaches the finish being more susceptible of scratches or injury. This is more requisite still in the final polish which is produced by either a cushion of cotton velvet or of pitch, or both, as some workmen prefer facing the pitch with the velvet. This stage of the operation requires all the skill that experience can give, as, if commenced inopportunely, the preceding work may be so far injured as to require a return to the grinding; and, when we consider what a comparatively hard material glass is supposed to be, it appears strange that any injury could arise from a velvet cushion or carpet, but nevertheless such is the fact. Old or worn cloth should never be used, and, although new from the shop, it should be carefully washed in rain water and dried in an apartment not liable to dust. The rouge is also difficult to obtain good, and the extreme carelessness with which it is used in some works is shewn by the manner in which the clothes and persons of the workers are covered with it. In France there is no evidence of this kind visible, the workmen being careful that nothing shall interfere with the perfection of the final polish, their blue blouses being washed especially for this operation, and the rouge is passed through covered sieves into rain water which is previously filtered, and is laid on to the prisms with small mops made of strips of cotton velvet. As the table revolves the rouge is taken up by the rubbers, three of which are placed equidistant in the circle, one on the arris and one on each refracting side, the reflecting portion still acting as a base, and, being the last portion completed, gives an opportunity for correction and finishing to the templates if such should be requisite, the final polish being given to it by hand, on rubbers of velvet stretched securely on a level iron plate.

All being now completed, the prisms or lenses are detached by the sharp tap of a boxwood mallet, which causes a rapid contraction and expansion of the glass sufficient to destroy its adhesion, and the pieces being cut radially into the sizes requisite by means of a disc of sheet copper driven at a great speed and charged with fine emery powder, are ready for adjusting and mounting in the gunmetal frames. These frames having been previously prepared, and having apertures of four millimeters in excess of the sectional dimensions of the prisms on each side, the adjustment is made for the first order lights (for ordinary four-wicked burner), with a focal distance from lens to centre of burner of 920 millimeters. Over this the cupolas of superior prisms have a focus of 30 millimeters above the burner, and 9 millimeters behind the axis, the focus of the inferior or hypopyral series being 18 millimeters above and 38 before. These figures are evidently only a mean, as an approximation for each of the prisms of the cupola, and of the inferior zones, has its proper focus, and this is so evident in practice when they adjust the prisms according to an artificial focus, a red ball occupying the position above indicated, that they are always obliged to rectify the adjustment of

the extreme prisms when the artificial focus is replaced by the flame of the lamp. And this at once brings to mind the absurdity of a mere theoretical "scientific adviser," with an audacity only belonging to such persons, trusting himself forward to test and examine apparatus, the construction of which is foreign to his pedagogic mind,—a Jack-of-all-trades and master of none, a discoverer of oft-discovered secrets, a student of Joyce's Scientific dialogues, an evolver of protoplasm; however, it is not my place to disturb my own or my readers' equanimity by such, but let us "Hope to be saved without thinking of asses."

As each portion is tested as to its position, it is at once secured with a boxwood wedge and a small portion of quick-setting plaster of Paris, and when all is examined and tested by the lamp in an experimental lantern the work is finished by cementing the glass to the frames by a mixture of 12 parts white lead, 3 parts dried or baked whiting, 4 parts drying oil, and 4 parts litharge, which when completed the over length of the wedges is cut off and the whole brought to a condition for safe removal to the shrine of its future usefulness.

Having so far described the manufacture of the different means for illuminating Sea and Harbour Marks, I hope to devote a chapter or two to Fog Signals, Beacons, and Buoys, and also to some of the most prominent Lighthouses of the present day, commencing with the Fastness.

#### THE SHANNON—ITS NAVIGATION AND DRAINAGE.

AMONGST several very able and interesting papers read in Section G (Mechanical Science) was one by Mr. James Lynam, C.E., on "The River Shannon, its present state, and the means of improving the Navigation and Drainage." The author went very fully into the subject. The following is a summary:—Since 1821 three select committees of Parliament have sat to inquire into Shannon drainage projects; three acts of Parliament have been passed for the drainage; ten engineers have been employed planning it; £11,000 were spent for plans and reports; at first £557,000 were expended on works; £22,000 have been expended in maintenance; £10,000 have been expended recently on making enquiries. The results are—the floods do not now rise quite so high, nor last so long, nor cover so much land, as they formerly did in some divisions; but all good land formerly flooded is still flooded. The greater height of the former floods covered only barren shores or poor margins, shingly and shrubby beaches. Twenty-four thousand acres of arable land are still damaged by floods nearly every year. The outlets of seventeen rivers are obstructed; several public roads are flooded; a swamp 150 miles long is maintained; many dwelling-houses are flooded. The smallest amount of sluices in the weir mounds would prevent all. But the weir mounds are all immovable. There are eight weir mounds built across the Shannon, without any sluice or flood-gate in any of them. They are the sole cause of all the saturation, and the principal cause of all injurious flooding. The Lords Commissioners of her Majesty's Treasury, by their minute dated 21st May, 1866, appointed me the tenth engineer to design plans for works necessary to secure the low lands from summer and autumn floods. My estimate for relieving the 24,000 acres is £144,000, or £6 an acre English. My object is to prove that my estimate is much nearer to the truth than any of the others. The Erne and the Shannon rivers have three features which render it peculiarly easy to regulate their floods, and to secure the lands from injurious inundations. They have larger superficial areas of lakes. Their channels between the lakes are broad and deep, so capacious as to carry off their floods with a fall of about an inch a mile. The floods rise very slowly, generally three inches in 24 hours, very rarely eight inches. The Shannon has a fourth feature very advantageous. All mill weirs and

\* *Appropos* of "cushion polish" and white glass, one of the lenses used for experiments by the Commissioners of Irish Lights is most defective in this respect. I understand it was purchased on the faith of the excellence of the manufacture, and not submitted for any test to the late engineer, Mr. Sloane. The red tint is rapidly developing itself in the white glass, and the lens is altogether in such a state as to render it quite unfit for experiments, and unfit for the experimenter. I won't say where it was manufactured, in the absence of certain information on the subject, but I may conjecture that it was not in Timbuctoo, or Paris, or Dalkey Island.

fish weirs have been purchased and removed, and all the shoals have been deepened, at a cost of £517,050. The estimate put forward by the Government in the last Act of Parliament for 17,500 acres is £300,000, and at this rate, which is 50 per cent. over that for 1867, the estimate for the 24,000 acres would be £436,000. This is in addition to the £557,000 spent on the Shannon by the Commissioners. I now submit for consideration the following propositions:—First, the circumstances of the Shannon are such as to render it very easy to regulate its floods and protect the crops. Second, the drainage and navigation of the Shannon district may be improved to the full extent necessary or desired, for a third part of the sum which the Government had been advised to insist on as necessary. That this may be effected by means of movable regulating weirs, which may be all built in one season, and by dynamite blasting and steam dredging. I have all the details for proving this for each section of the river. No new surveys or soundings are required. I have accurate large scale maps and sections of all the straits and shoals.

#### SOME NEWSPAPER CUTTINGS OF FORTY YEARS AGO.\*

THE GREAT WESTERN RAILWAY was opened from London to Maidenhead, twenty-three miles, on June 4th (1838). The number of passengers has exceeded those on any other line, and the rate of travelling is greater, the velocity mostly exceeding thirty miles per hour; during September last the fares amounted to £7,579. The estimated cost of the whole line, 117 miles, is £4,569,928, exclusive of locomotive engines and carriages; engineer, Brunel.—*Saunders's News-Letter*.

THE BRIDGE OVER THE THAMES AT MAIDENHEAD contains arches of the largest span yet attempted in brick in this country, or probably in any other. The two arches are 128 ft. each span, and the pier in the centre of the river is 3 ft. wide. The carriages of the Great Western Railway, by Davis of Wigmore-street, are of excellent build and accommodation, and cost £400 each; some are 18 ft. long and 8 ft. wide, and others 21 ft. long and 8 ft. wide. The centre of the roof or ceiling is raised to give headway, and is sufficiently high for a tall person to walk upright; on each side of the raised ceiling are copper gauze wire panels for ventilation, regulated by wood slides or shutters.—*Civil Engineer and Architects' Journal*.

TIMBER VIADUCTS FOR RAILWAYS.—Mr. Thomas Green has constructed on the Newcastle and North Shields Railway at Wellington Dean a bridge which is as new in principle as it is magnificent in structure, and will probably form the example for viaducts in this part of the country, where its relative economy will be very considerable. Its total length is 1,150 ft., and it consists of seven arches, five of 126 ft. span each, and two of 116 ft. each, the maximum height being 82 ft. The great novelty is its having wood instead of iron, brick, or stone for its arches, and its not being constructed with straight timbers as wooden bridges usually are. Each arch is the segment of a circle of 120° and consists of three ribs, each being 20 planks of 22 in. wide, and fourteen planks or 3 ft. 6 in. deep. These planks are banded together, and each rib springs from an iron socket in the stone pier firmly bolted to it. In each rib every alternate course of deals is laid in a whole deal, and two halves for the purpose of breaking the joints, and between every deal is a layer of brown paper dipped in tar. Strong wooden principals go from the crown of the arch, where they are bolted and banded to the piers; from them the wooden struts go to the arch and meet it perpendicularly, whilst other struts issue from where the former meet the principals to the roadway, also perpendicular to it. By this means the materials are subject to no lateral but only

tensile and crushing forces. The roadway is 22 ft. wide, and the cost estimated at £21 per foot run of the bridge; the timbers are kyanized. This bridge, it is calculated, will cost one-third less than if built of stone; and if this be the case where stone is so cheap, the saving in the metropolis would be one-half.—*Railway Magazine*.

USEFUL APPARATUS.—On November 24, 1838, was read to the Society of Arts a communication from Mr. Thornthwaite, on a new apparatus for the use of divers to enable them to fetch up articles with greater expedition, or execute with more facility any works below the surface of the water, and which had been used in the repairs of the gates at St. Katharine's Dock with great success. The principal advantage consisted in a volume of condensed air contained in a vessel, and regulated by a valve, so that the person employing it has immediate command over it. The silver medal was unanimously awarded for this invention. A description was next read of an apparatus by Mr. Bowles for raising empty casks, which consisted of a single catch introduced into the bung-hole (similar to the end of a dog chain), and the ingenuity of the invention was much admired. From Mr. Jones was exhibited a travelling platform for the purpose of descending ropes, applicable to the repairs of buildings where ladders could not be applied, in descending cliffs for practicable or geological purposes, or repairing wells or shafts; and for which the silver Isis medal was awarded.—*Times*.

THE GAUDIN LIGHT.—On October 19, 1838, there were exhibited before the French Academy of Sciences some experiments in a new method of illumination proposed by M. Gaudin, which is stated to be an improved modification of the splendid Drummond Light. While Drummond pours a stream of oxygen gas, through spirit of wine, upon unslaked lime, Gaudin employs a more ethereal kind of oxygen, which he conducts through burning essence of turpentine. The Drummond Light is 1,500 times stronger than that of burning gas; the Gaudin Light is, we are assured by the inventor, as strong as that of the sun, or 30,000 times stronger than gas, and of course ten times more so than the Drummond. M. Gaudin states his light to be of three degrees; the first is calculated to supplant the use of common gas, supplying a brighter and whiter light; the second, which is called "star light," is brighter still, and proposed to be introduced into light-houses, a focus of the size of a nut giving out a blaze which it requires the protection of green spectacles to survey without injury; the third, which is called "sun light," is said to possess the dazzling brilliancy of that luminary. The academicians are represented as being thrown into ecstasy by Gaudin's experimental results, but nothing in corroboration of the above startling statements (abridged from the *Mechanics' Magazine*) has yet appeared in England or Ireland, save and except a claim of priority of invention of such a light by Messrs. Keene and Gurney.—*Saunders's News-Letter*.

#### INSTITUTION OF CIVIL ENGINEERS, LONDON.

THE originality, labour, and ingenuity shown by the authors of some of the communications presented during the past session have led the council to make the following awards:—Telford Medals and Premiums to—Richard William Henry Paget Higgs and John Richard Brittle, for "Some Recent Improvements in Dynamo-Electric Apparatus." Watt Medal and Telford Premium to Henry Davoy, for "Direct-acting or Non-rotative Pumping Engines and Pumps." Telford Medal and Premium to Thomas Curtis Clarke, for "The Design generally of Iron Bridges of very large Span for Railway Traffic." Watt Medal and Telford Premium to Bradford Leslie, for "The Hooghly Floating Bridge." Telford Premium to James Atkinson Longridge, for "The Evaporative Power of Locomotive Boilers." Watt Medal and Telford Premium

to Alfred Holt, for his "Review of the Progress of Steam Shipping during the last Quarter of a Century."

The Manby Premium to Edward Bazalgette, for his paper on "The Victoria, Albert, and Chelsea Embankments of the River Thames."

Telford Premiums to—William Cawthorne Unwin, for "The Centrifugal Pump"; John Lewis Felix Target, for "The Main Drainage of Paris, and the Utilization of its Sewage"; George Wilson, for "Irrigation in the South of France—Department of the 'Bouches-du-Rhône'"; Frederick Cadogan Barron, for "The Works of the Bilbao Iron Ore Company in the Province of Biscay, Spain"; William Carson, for "The Egremont Ferry Landing."

The Miller Scholarship to William Bell Dawson, for "The Eastern Canal of France, for establishing a Line of Water Communication from the Saone to the Meuse."

Miller Prizes to:—Percy Wilson Britton, for "The Construction of Plate Girder Bridges"; Arthur Cameron Hurtzig, for "Some Formulæ for Pile Driving"; Arthur Spence Moss, for "Two Miles of Bridge Foundations, or Foundation Works at the Tay Bridge"; Alfred Weeks Szlumper, for "Lead Mining, and the Washing and Dressing of the Ores of Lead, Copper, Tin, and Zinc, and the Smelting of the same."

The Howard Quinquennial Prize for 1877 to Henry Bessemer, the inventor of a new and valuable process relating to the uses and properties of iron.

#### ST. CANICE'S CATHEDRAL, KILKENNY.

ON the occasion of the recent visit of some members of the British Association to the ancient City of Kilkenny, an address was read by Mr. Richd. Langrishe, M.R.H.A.A.I., M.R.I.A.I., Assoc. Inst. C.E., London. Through the courtesy of the author, we are enabled to print it *in extenso*:—

The See of Ossory was founded early in the fifth century at Saighir, by Chiarain, son of Lughaidh, of the family of the chieftains of the Osraighe. St. Patrick, when on his way to Rome, meeting Chiarain returning to Iregave him the following injunction:—"Saig the Cold, erect a city on its brink. At the end of thirty revolving years there shall I and thou meet." The Apostle of Ireland is said also to have given Chiarain a bell which would not sound until he arrived at the place intended as the seat of his bishopric. Seirkyran is now an isolated parish of the diocese of Ossory, situated in the King's County, at the south-western extremity of the Slievebloom mountains, and during the life of Chiarain formed part of the ancient kingdom of the Osraighe. The territory of the Osraighe having afterwards been considerably curtailed, the seat of the bishopric appears to have been removed to Aghaboe, a monastery founded in the 6th century, on the model of St. Columbkille's at Iona, by his intimate friend Cainneach, or Canice, Latinised Canicus, who subsequently became the patron saint of the clan. There is no record of the planting of a cell by Cainneach on the site of this Cathedral, but there is mention of his travelling through this district; and it is stated in the Annals of the Four Masters that in the year of 1085 "Ccall Cainnigh was for the most part burned"; therefore it may fairly be assumed that a cell had been founded by St. Canice or one of his immediate followers, and that in due course a town grew up around it.

The round tower had probably been erected some considerable time previous to the first conflagration mentioned in the Annals of the Four Masters, though undoubtedly not until the present churchyard had been for some time used as a christian cemetery, which fact is clearly proved by the excavations made by the late Very Rev. Charles Vignoles, Dean of Ossory, in the year 1847, several perfect skeletons having been found in the usual position, partly within the area of the tower

\* Extracted from the IRISH BUILDER from his collection by J. S. S.

and partly beneath its foundations, together with the wood of a coffin, which being partly beneath the wall, had been crushed together by the great weight resting on it. The skulls are preserved in the museum. The tower may therefore be said to have been built in the eighth or ninth century, the architecture being exactly similar to those whose age is pretty well established as being over a thousand years. It is still in very good preservation, only wanting the conical top, which would appear to have been removed at some remote period for the purpose of making the summit accessible as a watchtower, a rude stairway having been cut up through the inner part of the eastern window, and the top covered with flags, and a parapet built round it upon these. It contains eight storeys, and can be easily ascended, lofts and step-ladders having been put into it by the late Dean Vignoles; the prospect from the summit is very fine, and well repays the trouble of the ascent.

The Four Masters record that the church of Kilkenny was again burnt in the year 1114, the Irish chieftains having been much addicted to the destruction of sacred edifices about this time. From the foundations which have been discovered at either side of the present choir, and from a few sculptured stones of the Hiberno-Romanesque period built into the walls, besides a considerable number found during the late restoration, it is clearly established that a large church must have been built nearly on the present site about the middle of the twelfth century, and which must have been used as a cathedral church when the seat of the bishopric was transferred from Aghaboe to Kilkenny. This appears to have taken place soon after the establishment of the Anglo-Normans in Kilkenny. Hugh de Rous, an English Augustinian canon, prior of the Norman foundation at Kells, about eight miles distant, having been elected "*Primus Anglicus Episcopus Ossoriensis*" in the year 1202. Hugh de Rous conferred many benefits on the Priory of Kells, but does not appear to have done anything for the Cathedral, neither does either of his immediate successors, Peter Malveisin and William of Kilkenny.

The real founder of the present Cathedral appears to have been Hugh de Mapilton, whose episcopate lasted from 1251 to 1256. The Cathedral was not completed when Bishop Hugh de Mapilton died, and made little if any progress under his successor, Hugh the 3rd. It was, however, completed at great cost by the next bishop, Geoffrey St. Leger, who succeeded in 1260, and occupied the see until 1286.

There is a very chaste unity in the Early Pointed style of this Cathedral, which contains but little impression of the preceding Romanesque, only to be seen in the great north and south triplet lights of the choir, the credences in the latter, and in the choir aisles, the doorways which formerly led into the penitentiaries to the east of the choir aisles, and the doorway of the north transept, the details of all of which, however, belong to the Early Pointed period. The small chapel off the north transept commonly known as the "Parish Church," contains a very remarkable aumbry or credence, the head of which is not arched, but formed in steps, the mouldings forming a rectangular zig-zag on each side, terminating in a small square head. There is a sunken round-headed panel or arch in the wall above, occupying the south side, which may have contained a picture, but does not go through the wall. Another strikingly unique feature, is the small double-arched and pierced canopy immediately over the western doorway, and behind which there are three very small rose lights, the eill of the great centre light having been set several feet above those of the side lights in consequence.

A considerable variety of stone appears to have been used in the construction of the ornamental parts of the building, but only, it would appear, as a matter of convenience, and not for any effect of contrast of colour. The stone dressings were invariably set flush with the faces of the adjoining rubble work,

which was covered with a very thin coat of lime plaster, or putty, without sand, gradually dying out as it met the cut stone. The whole interior was then covered with a lime-wash of a faint pinkish buff, or dove-coloured tint, lined out in block with mock-ashlar work, and ornamented in suitable places with bold scroll patterns in the style of the period. Traces remain of these patterns, done in red, on the entrance arch of the Lady Chapel, or present chapter-house, and in the niche near the door of the north transept. In process of time the lime-wash on the walls and stone-dressings became discoloured, and in many places must have peeled off from the damp, which still penetrates the walls. Our forefathers then—all true architectural taste having died out—considering they were making the venerable building beautiful for ever, applied sundry coats of whitewash, which it is now impossible, from the rough finish of the stonework, entirely to remove.

The original roof was certainly of a totally different construction from that with which the Cathedral is now covered, for the upper lights in the four principal gables had no dressings internally, or sloping breasts to allow the light to fall downwards, as in the clerestory windows of the nave; there are also four doorways in the belfry for access to the chambers contained in the roofs of the nave, transepts, and choir. There is no record or evidence to show how the ceilings were constructed—whether of wagon-roof form or groined in timber, or whether ornamented by paintings, but the latter is very probable. Externally, the appearance of the building can be but little altered, except with regard to the central tower, which was at least a storey higher, and was crowned by a long pyramidal spire.

Great changes have from time to time taken place in the interior. The first was probably the pulling down of a small chapel off the south transept, corresponding to the parish church at the north side, the widening of the entrance arch to the greatest extent possible, and the enlargement of the chapel to its present size, as the Lady Chapel. The traces of this alteration are now clearly shown since the modern plaster over the entrance arch has been stripped off. The wide arch had been reduced to its original width early in the present century, but this modern half arch was removed three years ago, and the present arch inserted. There were no dressings on the outer face of the wide arch to correspond with the chamfered ring which appears on the inside; and it is probable that a screen was placed at the outer face. Another incontestible proof is that one of the ancient windows of the south choir aisle now looks into the Lady Chapel.

The next and great alteration was that consequent on the fall of the central tower in 1332, the nave arch of which alone remained standing, bringing down all the adjoining arches leading into the choir aisles, with a great part of the choir itself, "so that it was a horrid and pitiful sight to the beholder," as Friar Clyn, an eye-witness, relates. Richard de Ledrede, who had been a Franciscan Friar, then filled the See; as he was the only Franciscan bishop, it is conjectured that the effigy of a bishop now in a niche on the north side of the choir, habited in Franciscan robes, is a monument to Bishop de Ledrede. He set to work energetically to repair the damage, but did not restore the arcades of the choir, which remained closed until the late restoration. The solid rood-screen across the chancel arch, also lately removed, was put up about this time, the corbels which carried a former rood-beam are still to be seen close to the nave arch of the tower. The settlement which caused the fall of the tower can yet be seen in the fractured state of the south-western pier, and of the next pier of the south arcade. Buttresses were built to the western piers of the tower, curiously dissimilar in shape, and the eastern piers were rebuilt or cased to correspond with the south-western one. It is curious to trace the imperfect manner in

which the details of the older portion were copied in the new, the mouldings rising gradually out of the faces of the arches, instead of starting on an abacus at the springing. The vaulting of the tower was not executed at this time, but was the work of Bishop Hackett about 1465.

De Ledrede adorned his cathedral with magnificent stained glass windows, the great eastern lights contained the whole gospel history, and were so beautiful that Rinuccini, the Papal Nuncio, who visited Kilkenny in 1645, offered £700 for them. It is to be regretted that this offer was not accepted, for the whole of the stained glass windows were destroyed by Cromwell when he occupied Kilkenny in 1650—a few fragments found when excavating the site of the anchorite's cell in 1846, are all that now remain. These are to be seen in the museum of the Archaeological Association. Cromwell's troops are said to have stabled their horses in the Cathedral, and Bishop Williams relates "that they left it roofless, took away five great and goodly bells, broke down all the windows and carried away the glass, also broke down the doors, the font, and many, many goodly marble monuments, especially that stately and costly monument of the most honourable and noble family of Ormonde," some of which he considered equal to any "excepting the king's" in St. Paul's or Westminster Abbey.

Bishop Williams commenced to repair the Cathedral in 1661, and in the course of the next three years spent £400 in repairing the choir. The corporation of Irishtown in the same year paid 10s. each man, amounting to £6, for fitting up a seat for themselves. In 1671 the dean and chapter made some small repairs to the chancel, and bought the chest now in the chapter house. In the following year they paid £10 towards roofing St. Mary's Chapel, in order that it might be used again as the parish church, the parishioners probably paying the remainder. In 1674 the dean and chapter made a contract for plastering and whitewashing the whole interior, except the chancel, and stopping up the south window in St. Mary's Chapel; and Bishop John Parry, formerly Dean of Ossory, commenced collecting bell-metal for the casting of a peal of bells. These were completed in the following year by William and Roger Purdue, and George Covey, who came either from Wiltshire or Somersetshire. The tenor weighed 21 cwt. 3 qrs., and together with the treble, second, and third, remained in the cathedral until 1851, when being most of them cracked, the whole peal were recast, the fourth and fifth having been previously recast in 1724.

Bishop Parry left £100 to buy plate for the cathedral, as like as possible to the plate of Christ Church, Dublin, which was actually obtained in 1684 by Bishop Otway, who presented it all except the large charger, given by the Dean, Dr. John Pooley; the total weight was 42½ oz. 7 dwts. Mr. Graves is of opinion that the chalices date from the fifteenth century.

No further works of any consequence appear to have been undertaken until the year 1756, when Bishop Pococke, shortly after his appointment, communicated to the dean and chapter a design for improving and adorning the interior of the chancel; also he collected 723 guineas for this purpose, giving 100 guineas himself, and the dean and chapter contributing 252 guineas, making a total of £1,191 15s. A marble tablet is fixed in the north transept containing the names of the subscribers. The chancel was then fitted up as it remained until 1863; the throne, stalls, galleries and fittings being of fine grained oak, the whole well executed, but in the Ionic style, which, it need hardly be said, was most unsuitable. A great number of the ancient monumental effigies and inscribed tombs had been lying piled up in the north choir aisle; these Bishop Pococke had carefully repaired and arranged, though, of course, they could not be placed in their original positions. He employed John O'Phelan, "a learned and ingenious man," who was a classical school-

master in Kilkenny, to do this, and to copy all the inscriptions, which were afterwards printed by Dr. Peter Sheo. They are all now to be found in the history of this Cathedral by the Rev. James Graves and the late John G. A. Prim, a deeply interesting work, compiled in an admirable manner after years of patient research. The greater number of the monuments, together with some lately discovered, were re-arranged in 1869 under the directions of the learned authors of the history of the Cathedral. An ogival shaped marble tablet now placed at the west end of the north aisle of the nave commemorates the repairs done by Bishop Pococke. The late restoration is mainly to be attributed to the untiring exertions of the late Very Rev. Charles Vignoles, D.D., Dean of Ossory, aided by the members of the chapter, the work having been carried out under the directions of Mr. Thomas N. Deane. The noble proportions of the building, second to none in Ireland, which were in great part concealed for centuries past, are now laid open to view, and its ample space can be, and frequently is, utilised to the fullest extent. Its acoustic properties are excellent, especially for music; and any preacher possessing a voice of ordinary strength can fill it with perfect ease. A good deal is still wanting to correct defects, complete the restoration of the fabric, and provide it with suitable fittings.

#### IMPROVEMENTS IN OUR PORT.

IN the Mechanical Science Section of the British Association, during its recent meeting, Mr. Bindon B. Stoney, Engineer of the Port and Docks Board, read a paper on "Recent Improvements in the Port of Dublin." He said:—"The trade of few harbours in the United Kingdom has made greater relative progress within the last twenty years than that of Dublin. During this period of twenty years the tonnage entering the port has much more than doubled. In 1857 it amounted to 880,844 tons, and last year it rose to 1,973,781 tons, while during the current year there is a good promise that it will surpass the 2,000,000 limit. In the same period (20 years) the tonnage of Belfast and Cork has nearly doubled, and that of Dublin has considerably more than doubled in the same time. Also, the tonnage of Glasgow is only one-fourth more, and that of Liverpool is not four times greater, than that of Dublin.

The increase in the tonnage of the port of Dublin is not confined to one class of vessel alone, for we find that while the coasting trade increased from 821,640 tons to 1,543,861 tons, or nearly doubled in the last twenty years, the oversea trade increased from 67,848 tons to 299,876 tons, or more than quadrupled in the same period. Previous to 1865, the shipping quays of Dublin were, with the exception of a short length opposite the Custom House, founded at or close to low water level, and when the tide was out the foreshore used to strip out a long way in front of the walls. To meet the demand for a greater depth than this, timber jetties had been from time to time constructed along portions of the North Wall, so as to give about 8 ft. at low water in line of keel; and for many years this expedient was found to answer for the cross-channel steam trade and for a few of the smaller oversea vessels, while the larger vessels of the latter class either discharged in Kingstown Harbour or in a small excavation called Halpin's Pool, which had been dredged in the open harbour beyond the end of the North Wall. The first real attempt at providing deep-water quays was commenced in 1864 by rebuilding nearly 700 ft. in length of the east end of the North Wall quay, so as to allow vessels drawing 17 ft. to lie afloat alongside at low water; but the most important improvements of this kind were not commenced till 1870, since which date 6,500 ft. of quay have either been rebuilt or constructed where no quays existed before, so as to give depths of from 15 ft. to 24 ft. at low water, and enable the cross-

channel steamers to sail at fixed hours independently of the tide, as well as allow the larger class of oversea vessels which now frequent the port to lie always afloat. It will be observed that the rebuilding of the former quay walls at a greater depth did not add to their length, though it enabled rather more vessels than formerly to be accommodated in a given length of wall, and the extending commerce of the port rendered it necessary to provide additional deep water accommodation to suit the oversea trade which, as already observed, has increased more than fourfold in the space of twenty years. Accordingly it was determined, after mature consideration, to extend the North Wall, and construct a large tidal basin, with 24 ft. at low water inside, and 22 ft. along the river face, so as to float the largest commercial vessels at all states of tides. The masonry was commenced in 1871, and up to the present about 2,500 lineal feet of wall have been built on a novel principle, which avoids the trouble and expense of cofferdams, pumping, staging, and other temporary works, the expenditure on which frequently exceeds the cost of the permanent work, to which they are merely ancillary. The new mode of construction consists in the use of blocks of masonry of unprecedented size in the foundations below low water level. Each block is 29 ft. high, 11½ ft. long, and 21 ft. 4 in. broad at the base, and weighs 350 tons. They are built on land, and about three months after completion they are lifted by a powerful floating shears, and conveyed to their destination in the quay, where each block forms 11½ ft. in length of the lower portion of the wall as far as low water level; and when a number of these blocks have been thus laid in position, the superstructure up to coping level is built over them in the usual manner by tidal work, the total height of the wall being 45 ft. Besides the large floating shears for lifting and moving the blocks about, there is one other appliance—namely, a diving-bell, also of unprecedented size and peculiar in construction. This bell, which weighs 80 tons, is used for excavating and levelling the river bed on which the blocks lie. The chamber is cast-iron, 20 ft. square and 6½ ft. high, with a tube or funnel 3 ft. in diameter and rising to a height of 44 ft. over the bottom of the bell, and this is the greatest depth of water in which the present bell is intended for, though by adding to the length of the funnel it might be worked in greater depths. The upper end of the funnel forms an air lock 6½ ft. high with double doors and suitable cocks for admitting the compressed air from the chamber into the lock, or for letting that in the lock escape into the external atmosphere, and by this arrangement the workmen can pass up and down without lifting the bell off the bottom or stopping the work of excavation. Inside the chamber are two large iron trays, and the men shovel the excavated earth into these trays. When they are filled the bell is lifted a few feet off the ground and the barge hauled some yards to the rear of the wall where the trays are discharged by pulling out a detent and the barge is then brought back to its working position and the bell lowered as before.

The operation of lifting and setting a block is as follows:—The floating shears is brought bow-on to the block wharf during flood tide, and the lifting chains are attached to iron suspending bars, which pass through each block. The chains are then hauled in by the winches on board, and water is pumped into a large tank at the after-end of the vessel, to counterbalance the weight of the block, which is then floated away to its destination, and lowered into place the following low water, so that at one step 11½ ft. forward of wall are built up to low water level.

The cost of both floating shears and diving-bell was under £25,000, and the whole of this was repaid in the first 600 ft. of wall, by the superior economy of this system over ordinary cofferdam and pumping work, and the relative saving now amounts to about £16,000 per annum.

It would obviously be useless to construct deep water quays if the river channel and bar were not also deepened to correspond. Sixty years since the depth of water on Dublin bar was about 6 ft.; indeed, there was, a few years ago, an old man in the harbour employment who had in his youth stood on the bar at a good low water. At this time the North Bull Wall did not exist, and the bar, consisting of hard sand, extended in a curved direction about half a mile east of Poolbeg Lighthouse. As soon, however, as the Bull wall was built the large volume of water flowing and ebbing over the 2,500 acres which were enclosed between it and the Pigeon House wall, was confined in direction and augmented in velocity, so that it impinged against the bar and scoured it away to its present depth of about 16 ft. at low water, giving a depth of 28 ft. at high water springs, and this is still gradually improving; for, twenty years since there was 3 ft. less than at present, and it is believed that there is no other instance on record of a bar being so successfully deepened by artificial means. The depth in the river channel has recently made great progress, corresponding to the other improvements in the port. The average tonnage dredged in each of the ten years preceding 1860 did not reach 150,000 tons, and it is now close on a million tons per annum. The greater portion of this dredged material is now conveyed to sea in very large hopper barges, each of which carries 850 to 1,000 tons, according to the state of the weather, to a distance of 8 miles from Dublin, or about 2 miles beyond the Bailey Lighthouse, where it is deposited in deep water, beyond the influence of tides within the bay. Very great economy has resulted from this system of large hopper barges as compared with the older methods; for, multiplying the present tonnage dredged by the saving per ton, the gross saving amounts to considerably over £40,000 per annum. Indeed, without this economy it would have been impossible to carry out the other improvements in the port; for Dublin, though one of the larger ports in the kingdom, has relatively the smallest income, as there are no dues on goods except some small ones on timber, bricks, and marble, which in the aggregate do not reach £2,000 annually.

The floating shears and diving-bell are useful for many other purposes besides building quay walls. Among others they are well adapted for breakwater construction, and laying the foundations of beacons and lighthouses in suitable localities. There is at present a lighthouse in process of construction at the extremity of the Bull Wall which forms the north side of the entrance to Dublin Harbour, the foundations of which in such an exposed place would have been very costly if built by any of the ordinary methods. The base is formed of two large semicircular blocks, each 16 ft. high, and together forming a circle of 30 ft. in diameter, and weighing nearly 700 tons. These blocks were built on the block wharf and conveyed about 3 miles down the harbour, where they were laid at a depth of several feet below equinoctial low waters on the rubble stone forming the extremity of the Bull Wall which had been previously excavated by the diving-bell. On top of these blocks is built in heavy granite ashlar with solid rubble hearting the lower part, or what may be called the plinth of the tower, rising some feet over high water, and on top of this again the shaft of the tower is in process of construction, formed of wrought iron lined with timber, the total height from foundation to top of lantern being 79 ft. Opposite this lighthouse, and at the south side of the harbour entrance, stands Poolbeg Lighthouse, erected in the last century at the extremity of the pier beyond the Pigeon House Fort. The foundations of this lighthouse were laid at about low water level in the centre of a mound of rubble stone, and it was originally surrounded by a handsome cut stone platform, which was heavy enough to stand ordinary rough weather, but which, with the rubble stone on which it was laid, was constantly washed away by heavy storms

from the sea front of the lighthouse, leaving the base of the latter exposed and liable to be undermined, and causing heavy annual expense from hauling the rubble back again, to be again scattered in the next gale. The lighthouse base and foreshore are now protected by large blocks weighing 140 tons each, two of which were carried at a trip by the floating shears, and dropped on the irregular foreshore in front of the lighthouse which they now protect from the violence of the sea which breaks on them before reaching the lighthouse. This work was exposed to the full brunt of the great storm of January 8rd, 1877, which nearly cut across the east pier of Howth Harbour and did considerable damage to the paved slope of Kingstown West Pier, and to the railways both at Monkstown and at Howth, which, strange to say, were apparently completely covered by their respective piers. The big blocks, however, protected the base of Poolbeg Lighthouse, and no damage whatever occurred to it. Besides excavating, the diving-bell has been used for removing portions of wreck and pulling up pile stumps, in which latter operation it is very successful, and three or four pile stumps can be drawn at one effort by attaching chains hanging from the ceiling of the bell-chamber to the heads of the piles, and then raising the bell by its hoisting chains, which have a surplus working strength of about 70 tons when the bell is under water.

A discussion took place on the afternoon of the following day, when Mr. Stoney described the apparatus invented and constructed by him for the raising and placing *in situ* the enormous blocks of concrete masonry used in the North Wall extension.

Sir John Hawkshaw expressed his high approbation of the way in which Mr. Stoney was working out his scheme. He had inspected the works on a former occasion, but from what he saw on Saturday he could say that they were being carried out quite successfully. He knew no case in which all points were better met than in this particular piece of mechanical engineering by Mr. Stoney, whether as regards the apparatus for lifting and setting the blocks or the diving-bell. They had been arranged with great skill, and were about as successful pieces of mechanical engineering as he had ever seen.

Mr. Bramwell, Mr. Musgrave, Mr. Tait, and other gentlemen took part in the discussion.

The Chairman said that in conveying their thanks to Mr. Stoney he was not only expressing the thanks of this section, but really expressing the thanks of the people of Dublin, to which Mr. Stoney was entitled for having conducted his work with such great patience and such extraordinary ability. The increase in the tonnage of the port was perhaps the most remarkable in the kingdom. That increase was from 800,000 tons in the year 1855 to 1,800,000 in 1877-8, and it was scarcely too much to say that without the labours of Mr. Stoney such a result could not possibly have been achieved.

#### LAW.

##### A BUILDING CASE.

CORK CITY RECORD COURT.

(Before Lord Chief Justice May).

**Rooney v. Curran.**—This was an action brought by Mr. Alexander Rooney, builder, against Mrs. Mary Curran, Queenstown, for the recovery of £700, being the second instalment due on his contract for the building of two houses near Queenstown.

Mr. Heron, Q.C., in stating the case, said defendant, who resided in Queenstown, wishing to invest some money in the building of houses, she on 3rd April last entered into an agreement for a plot of land on the Rushbrook estate. Mr. Nat. Jackson had the superintending of all new buildings on the estate. Mr. Rooney was a builder, and he agreed to erect two houses for Mrs. Curran. On the 3rd of March last, before Mrs. Curran had signed the agreement with the landlord, she sent the following letter to Mr. Jackson:—"Please

draw out plans and specification for two houses which I am going to build on Rushbrook estate, and send them to Mr. Rooney, the contractor." Accordingly Mr. Jackson prepared a specification for a double villa to be erected by Mr. Rooney for Mrs. Curran, mentioning in it that the main walls were to be constructed of strong bricks. At the end of the specification were the words "all to correspond with Captain Beatty's houses in every respect." Captain Beatty's houses were the adjoining double villa, and they were exactly on the same plan. Then followed the clause "everything to be done that is usual and necessary, and to the entire satisfaction of the architect, by the 1st of November, 1878." Mrs. Curran signed that agreement on the 3rd of April, 1878, and agreed to pay for the building of same £2,000 in the following instalments, £700 when the first floor or joists were laid, £700 more when the roof or slates were on, and the balance when the work was completed. Mr. Rooney was bound to do everything mentioned in the specification, and he had been treated in a very extraordinary manner in that transaction. He had done the work to the perfect satisfaction of the estate architect, and he had done work to the value of £100 which was not in his contract at all. The defence there was that the bricks were not of an approved quality, that they were not, in fact, Belvelly or Youghal bricks. The houses are nearly completed, and the case for defendant was that she was entitled to those houses, for she presumed no architect in the world would now say that they ought to be pulled down, that she was to have those houses free of cost. They wanted not to pay his client the £700; they wanted to keep the houses, and they then went for £3,000 additional damages against the builder for having built the houses at all, and really that surpassed anything he had ever known in the way of building cases. The work was commenced on the 4th of April with a good concrete foundation, and when they had advanced a certain stage, Mr. Rooney wrote to Mrs. Curran on 4th May stating that he would be ready on the 11th to receive the first instalment on foot of his contract, together with £50 for architect's fees. After that he received a letter from Mr. Hill, an architect who had no right whatever to interfere except as a friend. [Counsel here referred to a correspondence which took place between the parties as to the mode of payment for the work, &c.] Mr. Hill knew very well that every architect was entitled, during the progress of the works, to payment at the rate of 5 per cent. on the instalment paid to the builder. Mr. Jackson had been paid £50 as portion of his fees by Mr. Rooney, and really the absurdity of defendant and her advisers went the length of imputing that the payment of that £50 under the terms of the contract was a bribe to Mr. Jackson. Matters went on until the 19th of June, when Mr. Hill wrote objecting to the use of slob bricks. A letter was then written by Mr. Rooney to Mrs. Curran, reminding her that she had appointed Mr. Jackson her architect, and he could not understand what Mr. Hill had to say to the building. Mr. Rooney also stated in the letter that he had shown Mr. Hill over the building in the first instance, but he refused to let him go near the place on the last occasion, owing to his interference and desire to alter the terms of their contract. After that Mr. Hill wrote a long letter to Mr. Jackson, explaining to him how it was he came to be called on to inspect the works, and in that letter he mentioned that he had "much pleasure in reporting that both workmanship and materials were excellent." He also stated that when he visited the works on the 3rd of June, Mr. Rooney told him he had his (Mr. Jackson's) authority for not allowing him to make his inspection, and that Mrs. Curran told him (Mr. Hill) that she had never engaged the services of Mr. Jackson, and in fact did not know Mr. Jackson's personal appearance. He concluded that letter by saying that "he had objected to the use of slob bricks where other bricks were ordered. Mr. Rooney seems to justify their use by the fact that they were used in Captain Beatty's house, and I am sure you will not allow such a departure from the contract to be made." Mr. Jackson replied to that on the 18th June—"I am at a perfect loss to understand your letter. I was appointed Mrs. Curran's architect, and I find Rooney carrying out the works in accordance with the plans and specification. I trust, therefore, there may be no further interruption or annoyance to either builder or me." Architect after architect, and builder after builder would be produced, who would prove to their satisfaction that those slob bricks were quite as good for that work as any other, and moreover, those were the bricks used in the building of Captain Beatty's house, which was to be the model in this case.

Mr. Alexander Rooney, in reply to Mr. Peter O'Brien, said—I am plaintiff in this case, and have been a contractor for the last thirty years; defend-

ant for me, and said that she had some money in the funds belonging to her children, and that the interest it was bearing was very small, and she was anxious of employing it in some more paying investment. In the middle of January she asked me if I found what she required; I said I had; I mentioned to her Captain Beatty's house and the plot of ground adjoining it on the Rushbrook estate, and I said I would get the cost of the place; said I had the plans of Captain Beatty's houses, which cost something over £2,000, and that I would build her similar houses for £2,000. Mr. Jackson was appointed architect, and a contract was drawn up and signed. The works were commenced on 4th April, and went on with as vigorously as I could, Mr. Jackson having laid out the ground; I used Belvelly brick at the beginning until the first floor was laid on, and I was paid my first instalment; Mr. Hill came on the 11th and 20th May; the second time I was using Cork slob brick, and they were lying all around, and any one could see them; I had eight men at work there, all using these bricks, which it is very easy to distinguish both by size and colour; Mr. Hill made no objection whatsoever, but after his inspection he said it would be great pleasure to him to tell Mrs. Curran that I was doing the work better than I was obliged by contract, and four days after I got a cheque for £400; I saw a letter the following day saying that it was not usual to advance money until the architect had granted a certificate for the amount required; fifteen days after the money was due I asked Mrs. Curran why I did not get the whole instalment, and she said it was Mr. Hill and Mr. Lyons prevented her from giving it; five days after I got the balance, £300; Mr. Hill came on the 6th June, and I refused to allow him to go up the works by Mr. Jackson's orders, as he was going behind Mr. Jackson's back and acting against the etiquette of his profession; he said he would "meet me," as he did, when the work was finished by stopping my payment; Mr. Hill and Mrs. Curran's foreman tailor came and measured the work some time after. Mr. Hill asked me why I was doing more work than was in the plan, and if I was to be paid extra, I said there were to be no extras; he did not say a word about the Cork slob bricks; the first I heard of the objection was on the 19th June; there is no difference to the contractor in using either of the three kinds of brick. One thousand Belvelly brick will make 3 cubic yards—14s.; 1,000 Cork bricks will make 2½ cubic yards of brick at a cost of 12s. 10d. per cubic yard, the latter taking more mortar and time; I demanded payment of the second instalment, but it was refused; certain additional work was done at Mr. Jackson's direction, which cost me £115 more than my contract. I have seen Cork slob bricks used in Captain Beatty's house in greater quantities than in mine; they are a more durable brick than the other, as the mortar and cement adheres to them better. Are you building houses yourself? I had a lot of men working when I was refused the instalment, and I had to discharge the men; if I got the money I would have it completed before my contract; I estimate my damage at first—for the removal of the scaffolding £5, and it will cost £10 to put it up, the loss of getting workmen again.

Cross-examined—The 19th June was the first intimation I got of any objection to the use of slob brick; I don't remember receiving a letter of the 13th June from Mr. Hill stating that on the 6th of June he objected to my using Cork slob brick, repeating his warning, and noticing me to stop the works; he said nothing to me on the 6th June about the slob brick; I did not allow him on the scaffold that day, because he had broken my contract; he only gave me a certificate for £400, when I was entitled to £700; I knew he was Mrs. Curran's architect; the suggestion to build the houses originated with Mrs. Curran; I brought the plans and specification to Mrs. Curran, and she said she knew nothing about them—that she would leave everything in my hands; that was a fortnight or three weeks after I commenced the works, and it was about the 2nd May that she asked me for the plans for Mr. Hill; it was I took the ground and arranged everything for Mrs. Curran; Mr. Hill appeared first at the building on the 11th of May; nothing but Belvelly brick had been used up to that time, and Mr. Hill expressed his satisfaction; the Cork slob brick is smaller than the Belvelly, and requires more mortar, which comes out of the pocket of the contractor; Cork slob brick will exclude moisture if properly burned; they are not inferior in quality and durability to Belvelly brick when properly burned; these houses are much exposed to the salt atmosphere; there is the hotel building at Kinsale built exclusively of Cork slob brick, and exposed uncovered for fourteen years; I don't believe Belvelly bricks would last for that length of time.

Re-examined by Mr. O'Brien—I have not worked

under Mr. Jackson for the last twenty-two years; we were not on terms for thirteen or fourteen years; I had a conversation with Mrs. Curran about Mr. Jackson's fees; I told her he was entitled to five per cent. on the £2,000, which would be £100; I paid him the first instalment of £50.

Mr. Nat. Jackson, C.E., in reply to Mr. P. O'Brien, said—I am architect to Rushbrook estate, and all plans of buildings proposed to be erected there are first submitted to me. I prepared the specification for those houses, and visited the works from time to time; the works went on to my satisfaction; of course I had to find fault and had to make serious alterations; I saw the Cork slob bricks being put in; I gave him permission to go on with them; they are proper bricks when well burned; I saw Mr. Rooney in the month of May, and before Mr. Hill went there I think; I said some people have an objection to Cork slob, as they throw out saline, but when you wipe that off it never appears again in a well-burnt brick; I told Rooney he was using Cork slob brick; he said they are in his agreement, and that they are in Captain Beatty's house, which is my model; I said if you put the first coat of rendering in the cement I have not the slightest objection to your using them. Mr. Rooney built the internal walls from 4½ to 9 inches thicker than was required of him, and he required from 15,000 to 20,000 bricks additional; Cork slob is largely used in that fine building, the Cork Lunatic Asylum; Mr. Rooney carried out his work more than fairly.

To Mr. O'Brien, Q.C.—I don't think he is a very old builder of houses; Mr. Rooney was mostly engaged at earthworks; it does not require any particular skill in a builder to build a house; before going into the plans Mr. Rooney told me that I was to get 5 per cent.; I would not go into the plans until that was perfectly understood; I ignored Mr. Hill from beginning to end; he had nothing to say to it; I never saw the defendant to my knowledge before to-day; the bricks used by Mr. Rooney are in accordance with the specification.

Mr. Roddy, C.E., Monkstown, examined—Read the specification in this case, and saw the houses; the bricks are good, sound, and well burned; the Cork slob bricks are well burned; considers Cork slob brick better than some Belvelly brick; was architect for the building of the hotel at Kinsale, and that was of Cork slob; the company broke up, leaving the hotel without a roof; this was fourteen years ago; I saw it last week, and the bricks are as sound as the day they were put up.

Mr. T. O'Keeffe, C.E.—Knew this Cork slob brick, and for certain purposes he did not think better could be had; for the purposes of this building he believed it to be equally good with Belvelly or Youghal; the bricks in this particular building appear to be all sound, well-burned brick.

Mr. William Barnard, builder for over forty years, and who was originally a bricklayer and proprietor of brickyards in England and Cork, said he erected a good many houses of Cork slob brick; and he built the Kinsale hotel; the bricks about which the dispute is, are good, sound bricks; would prefer the slob brick when they are to be cemented over; considers Cork slob brick better than Belvelly, but would prefer Youghal to either; Belvelly are a large brick, and if not worked hard they absorb a good deal of water; the common brick is coarse, and cement has better chance of sticking to them than the other; never saw cement fall off Belvelly brick.

Mr. F. W. Jackson, architect, said he had considerable experience in building houses; had experience of the relative merits of Cork, Youghal, and Belvelly bricks; the Cork brick has lasted for centuries; had no opportunity of testing the other bricks for such a length of time; half the buildings in Cork are composed of Cork slob bricks.

Mr. W. Atkins, architect, said the brick used in those houses was a good hard brick; they have an ugly appearance, but when cemented over they are a famous brick.

Mrs. Mary Curran deposed that plaintiff came to her on the 31st of March, and told her there was a piece of ground to be let on the Rushbrook estate, and it was a splendid opportunity for witness to invest her money; he also proposed that he should build them; witness said she could do nothing without the consent of Mr. P. Lyons; he brought witness a letter to copy and send to Mr. Deane; the letter was Mr. Rooney's composition; witness did not know anything about Mr. Jackson; had never even heard of him; when signing the agreement she did not know that she was appointing Mr. Jackson architect; did not know there was any necessity for inspecting the place, and certainly did not know that Mr. Jackson was inspecting them; witness left the management of the whole

thing in the hands of Mr. Rooney; Mr. Lyons recommended her later on to get the advice of an architect about the houses, and it was then that Mr. Henry Hill was called in; witness paid Mr. Rooney two instalments, which covered the work as far as it had at that time progressed. Mr. Lyons.—Mr. Rooney did not give me an exact copy of the agreement about the three payments. Mr. Rooney on reading it over next day saw that he had made a mistake, and he then replaced it by a correct copy; the week after seeing Mr. Lyons the work was gone on with; Mr. Strick, R.M., offered me £100 a year for one of the houses when it would be finished.

Mr. Henry Hill, C.E. and architect, examined—Was employed on the 2nd of May by Mrs. Curran to see the houses; a few weeks after he saw the plans and specification; was not aware that Mr. Jackson was the architect; saw the deed contract about the time Mr. Rooney demanded £700; the agreement did not contain a word about the mode of payment or times of payment; on his visiting the works first in June the first storey was unexceptionally built of brick, and in a workmanlike manner; he did not see Cork brick lying about at that time; Cork brick were most inferior to Youghal or Belvelly brick, and were unfit for exterior work; the Cork slob brick make damp walls; Cork brick was most objectionable for exterior work; an outside lining of mortar and cement would not prevent the dampness; on the 6th of June he first saw the Cork brick used in the exterior walls; he then complained to Mr. Rooney about it, and that gentleman said it made no difference in his contract; witness replied that it made a great difference in the houses; witness was then prevented from inspecting the work, Mr. Rooney saying that he had instructions from Mr. Jackson not to allow him to do so; Mr. Rooney said to him, that he would prevent him from going up if he attempted to do so; witness then said he would retire, and went off the ground; there was no "row" on the occasion, although Mr. Rooney said there was; witness wrote to Mr. Jackson to say that he had not known Mr. Jackson was the architect; he (witness) never used the words deposed to by Mr. Rooney, and he denied the imputation that he was actuated by a personal jealousy towards Mr. Jackson, as they had been previously very good friends; witness also denied having used disparaging language to Mr. Rooney about Mr. Jackson; he did not consider the houses built according to specification; unfortunately he built a house of his own of Cork brick, and he set his face against its use afterwards; no architect who wished to keep up his character as an architect or a builder would use Cork brick. Knew Mr. Jennings' house off the Western-road; though the best Scotch brick had been used on the outside, Cork brick had been used on the inside, and the damp had penetrated; wherever he knew Cork brick to be used the result had been the same; Cork bricks were used now only for the sake of economy, and when repair was needed.

Cross examined—The house of his own which he built of Cork brick, and which he did not approve of, was built between 15 and 20 years ago; the damp showed itself about 12 or 18 months after its erection. Isn't it from the ground that bricks suck up the moisture which make the walls damp?—In the case I speak of the lower storey was of stone and the upper storeys were of brick. Did you build Rochelle Seminary?—I was the architect of it. Were there 80,000 bricks of Irish slob bricks laid in the building of it?—I can't tell; I don't know how many thousand bricks were laid. Were the walls made of Irish bricks?—They were, for the sake of economy; the fact was that there was not enough money to finish the building, and therefore it remained unfinished.

Mr. Walker examined—Saw slob bricks in the houses in question; they were not equal in quality to the Youghal or Belvelly bricks.

Cross-examined—The best Bridgewater brick exude soda and become quite white. Farren House, belonging to Mr. Clarke, was built of Cork brick; witness was the architect, but it was against his advice that they were used. The words "approved quality" mean, in my opinion, an equal quality with the other articles. If Mr. Jackson passed the bricks I think Mr. Rooney was quite right in putting them in. Nearly half Cork is built with Cork brick, and Cork is notorious for damp walls. The reason that Cork brick was used so extensively formerly was, that it was the only source of supply. Youghal brick, Ballinhassig, and Belvelly brick of an improved quality and a better style have since been introduced. They are made from clay, whereas the Cork brick is made of slob mud.

Foreman—You stated that sometimes you recommended Cork brick for the purpose of economy. Mr. Rooney stated that the difference between Youghal

and Cork is very brick little—that Youghal costs 14s. per cubic yard and Cork 13s. 10d?

Witness—From my experience of the prices, I have allowed in '75, for Youghal brick 24s. per cubic yard, and 16s. for Cork brick. Since then Cork brick and the other manufactures have gone up in price. The current prices are—Cork brick, 18s. to 19s., and Youghal, 28s. to 30s.

Mr. Heron.—But will not Youghal brick make three cubic yards to the thousand, while Cork brick will only make 2½ yards to the thousand?

Witness—In practice I find that the Cork brick will make as much as Youghal or Belvelly, because in the jointing more mortar is put in.

Mr. Evans, builder, examined—Had great experience of building in the city of Cork; considered Youghal bricks to be the best for building purposes, Ballinhassig next, and then brick slob. Youghal clay is pottery and not saline clay. If the Cork bricks are used externally they will give out salt. The best Cork brick cost about £1 the 1,000, and the best Belvelly about 40s. the thousand. He visited the premises in question last week, accompanied by Mr. Hill, architect. He did not get a good view of the place as they were chased by a man.

Cross-examined—Consider the words "approved of" in the specification mean that the bricks to be used were to be as good as those previously mentioned; at the time Mr. Rooney built these houses there was a great scarcity of bricks; there were about 200,000 Cork slob bricks used in the building of the Queen's College, but not externally.

Mr. John Delany, examined—Was a builder for the last eight or nine years, but had experience of bricks since he was fourteen years of age. All the architects with whom he had been at work, with the exception of one or two, specified either Youghal or Belvelly brick. Cork brick gives out saline, but he might state that he had built walls with Cork bricks that were perfectly dry walls.

[Plaintiff and defendant were here examined as to the agreements and terms of payment.]

The evidence then closed.

Mr. Peter O'Brien submitted that "approved" meant approved by the architect, and that therefore the case was established.

His Lordship.—One of the questions I shall ask the jury is, whether or not the architect approved of these bricks, and if he did I shall direct a verdict for the plaintiff. If the architect sanctioned the introduction of those bricks, and approved of them, and that the work went on under his inspection, the question arises whether if the agent of the principal sanctions such a work it is competent for the defendant afterwards to repudiate his act, because Mr. Hill, who was employed by the trustees—

Mr. Johnson.—By her; and I will put it to the jury that he was her architect, and that Mr. Jackson was more the agent of the estate, to see that the work was done according to certain plans.

His Lordship said it was his intention at present to put the question in that way to the jury.

Mr. Johnson proceeded to sum up the evidence, and Mr. Peter O'Brien replied for plaintiff.

His Lordship then addressed the jury, and said that it had been endeavoured to import some confusion into the case, and he imagined he saw the matter plainly. Mrs. Curran swore that an agreement was signed containing a clause regarding the periods of payment, and that she gave this to Mr. Rooney, and that that gentleman gave her another in return which had no clause regarding the payment of instalments. There must be some confusion on the part of Mrs. Curran regarding this point. Unless they be lieved that Mr. Rooney was guilty of forgery it is wholly unfounded. In his opinion it would be an utterly absurd and ridiculous charge to impute to Mr. Rooney, and he asked them not to believe it. There never was a building contract yet that did not provide that the payments should be gradual, for few contractors would have capital enough to allow them to wait to be paid until the work was finished. Mrs. Curran, however, admitted on cross-examination that a clause about payment by instalments was inserted in the proposal at her own request. And on that point plaintiff and defendant were perfectly agreed. It appeared to him that there could be no doubt at all that the work was to be done, that payments were to take place by instalments, and therefore the idea of the insertion of this clause was a mere chimerical on the part of the heated imagination of Mrs. Curran. Mr. Jackson was no doubt the person called upon to draw up the plans and specification. Mr. Rooney was to carry out the work, and he was bound to construct the two houses to the satisfaction of the architect. It appeared, however, that Mrs. Curran and the trustee, Mr. Lyons, instructed Mr. Hill to go and

see how the work was going on. His lordship having read some letters which passed between Mr. Rooney and Mr. Hill, said that the latter gentleman inspected the place and objected to the employment of slob brick, unless the inside as well as the outside of the wall was cemented. A lively controversy had been raised as to the quality of Cork slob bricks, and, as often happened, the witnesses who were examined gave evidence for one side, the very opposite of what they would have given were they on the other. The contract which had been signed specified that the main walls were to be built "with good, strong, well-burned bricks, either Belvelly, Youghal, or others of approved quality." Counsel at both sides had told them what in their opinion the words "approved of" meant, but his lordship thought it meant that the bricks were to be good, strong, and well burned. They should remember that Mr. Jackson was the architect of the works, and that according to the specification Mr. Rooney would not be paid his money unless Mr. Jackson was satisfied with the manner in which the work had been done. And the principal question for the jury to consider was whether the work was done in accordance with the specification. They were asked by counsel for the defence not to give plaintiff a verdict, or in or in other words to allow defendant to keep these houses, and not pay more than the £700 which had already been paid. To arrive at such a verdict would be wholly unjustifiable. If the jury believed that defendant was entitled to some reduction out of the £700, it was a question for the jury to say what that reduction should be. There was another question—if defendant was wrong in refusing to pay this £700, if the work was executed according to the plan and specification, then they should consider that Mr. Rooney's plant was lying in Mrs. Curran's place for such a time exposed to the weather—he would ask them, if they considered plaintiff was entitled to it, to allow him some compensation for the loss he sustained in this way.

The jury came into court after two hours' deliberation, and found substantially that the work was done according to the specification, save as to the substitution of the Cork slob bricks. They found that the use of the Cork slob bricks was approved of by Mr. Jackson, the architect, and as regards the damage for the substitution of the bricks they allowed defendant £50.

His Lordship said on the finding of the jury he would direct a verdict for plaintiff for £700, with liberty to defendant to move in the court above for the reduction of the damages by £50 or more.

Mr. Johnson, Q.C., asked his Lordship to respite execution on behalf of defendant.

Mr. Adams opposed the application.

His Lordship.—Let judgment be issued at once for £650 and costs. Nothing would be more monstrous than to keep this industrious, hard-working man out of the money he has earned—it would be perfectly monstrous.

#### GLEBE HOUSE, BRAY.

THIS Glebe House, which is now being erected on a plot of ground opposite Christ Church, Bray, commands beautiful views of Wicklow Mountains and Killiney Bay. The house is faced with quartz stone with granite dressings, all pointed in cement and backed up with brick. The contractor for the work is Mr. Thomas Tighe. Messrs. Millar and Symes are the architects. The cost will be about £2,300.

#### ARCHÆOLOGICAL MEETINGS.

IN addition to what we briefly reported in our last issue of the proceedings of the Royal Archæological Institute at Northampton, on Friday the 2nd ult., meetings of the sections were held in the Town Hall, under the presidency of Dr. Evans, when Mr. Bloxam read a paper on "The Sepulchral Effigies, both Sculptured and Incised, of Northamptonshire," a paper full of interesting historical information. Mr. Samuel Sharp next read an exhaustive paper on "The Bones in Rothwell Crypt." During the reading of these papers a large number of visitors were examining several churches in the town. In the afternoon a large company made an excursion. Earls Barton Church was visited, Mr. Parker acting as *cicerone* of the party. At Castle Abbey the visitors were received at the princely mansion of the Marquis of

Northampton by Lord and Lady Alwyne Compton. In the large room of the building Mr. R. G. Scriven read a paper on the alterations made there at various times. Whiston Church and Cogenhoe Church were next visited, and in the evening a *conversazione* was held in the Town Hall, when a paper on "The History of the County of Northampton" was read by the Rev. W. Monk, late hon. sec. of the Society of Antiquarians for the county of Northampton.

On Saturday there was an excursion to Kettering and the churches of Kettering and Rothwell, and Rushton Hall, Geddington Cross, Kerby Hall, and Rockingham Castle were visited in succession. In the evening Mr. S. Tucker (Rouge Croix) read a paper at the Town Hall on "The Descent and Varying Armorial of the Spencers of Wormleighton and Althorp."

On Monday, the 5th, a large company went to Oundle, and thence in carriages to Cotterstock Church, when its characteristics and history and its recent restoration by Mr. Street were described by the Rev. A. J. Abbey. Tansor Church and Fotheringhay Castle were next visited. In the evening a meeting was held in the Town Hall under the presidency of Lord Alwyne Compton. Mr. J. T. Burgess gave an address on "The Opening of the Clarence Vault at Tewkesbury," and urged the Institute to utter a protest against the mercenary exhibition of relics found therein. The Rev. A. Foster of Farnish read an interesting paper on "Eastern Maudit." The general concluding meeting was held on Tuesday, after which there was an excursion to Canons Ashby, the seat of Sir Henry Dryden. During the meeting of the congress a loan museum of local and general antiquities was opened.

As announced already, the thirty-fifth annual congress of the British Archæological Association opened at Wisbeach, on the 19th ult., under the presidency of the Earl of Hardwicke, and from that date up to the concluding meeting on the 27th, a large number of papers were read and numerous visits made to buildings and objects of interest in the district. At the opening meeting the president and the members and their friends were formally received and welcomed by the mayor. The president in his address gave a long account of the Fen country, and spoke in terms of admiration of the many noble churches which studded the Fens. In concluding his address he remarked that in his opinion archæology ought not to be regarded as the handmaid, but as the twin sister of history, and that few persons deserved more highly the thanks and esteem of their fellows than those who devoted their days and nights to the study of the past, as the best means of discovering and testing the truth, and so contributing to our stores of knowledge. A vote of thanks to the Earl of Hardwicke and to the Mayor of Wisbeach, was moved by Mr. Thomas Morgan, seconded by Mr. Thomas Wright, F.S.A. At the conclusion of the public reception the president and members of the association and visitors visited the parish church at Wisbeach. Here the Vicar, the Rev. Canon Scott (brother to the late Sir Gilbert Scott), read a paper on the history of the venerable edifice. Mr. Loftus Brock, and Mr. Bloxam, also spoke briefly on the same subject. From Wisbeach the party proceeded in carriages to Lewington, inspecting some barrows and the church there. In the evening the members of the congress were hospitably entertained by the mayor and corporation in the Town Hall.

On Tuesday a large party went by special train to Ely, where they were received by the cathedral dignitaries. Mr. G. Loftus Brock, F.S.A., gave the history of the building, and pointed out its early architectural features, referring to the first account, as given by the veneral Bede, and its later history as continued by the Monk of Ely. Mr. M. H. Bloxam gave a history of the monuments. After luncheon at the Lamb Hotel, a visit was made to the remains of the Infirmary, the Monks' Kitchen, and Prior

Cranden's Chapel. The Bishop, in response to his health, proposed by the Earl of Hardwicke, said he thought societies like the British Archæological Association did much good, for they brought people to look to the past as well as to the future, and showed that there was much to conserve as well as to create. Returning to Wisbeach the visitors before dinner viewed the remains of the Castle and Museum. In the evening the Mayor took the chair in the council chamber, and the hon. treasurer, Mr. Thomas Morgan, F.S.A., read his paper "On the Roman Roads of Cambridge," treating the subject exhaustively. A lively discussion followed. An interesting paper followed by Mr. Alexander Peckaver "On the Tumuli of the District." Mr. Richard B. Dawborn read the last paper "On the Ancient Castle of Wisbeach," producing a large drawing of the seal of the Castle, which gave rise to a long discussion as to the date of the architecture of the Castle, in which Messrs. De Gray, Birch, Pictou, Brocton, and J. T. Burgess took part, and which brought this day's proceedings to a close.

On Wednesday morning the party visited some of the most noted of the Marshland churches in the locality. Mr. Loftus Brock gave a sketch of Castle Acre Priory and Order of Cluniacs, and entered into details, throwing light on this order and the arrangements of their buildings, in this instance interesting examples, Early English, of the twelfth century.

The above is but a skeleton outline of the first three day's proceedings. In our next we will furnish more particulars of the subsequent meetings, which pressure on our space obliges us to postpone as well as other kindred proceedings.

#### TO CORRESPONDENTS.

OURSELVES AND OTHERS.—From a variety of causes in the field of our advocacy, many demands have been made upon our space which we have been utterly unable to comply with. As far as we were able, we have made room for papers and communications; but our difficulty has been somewhat similar to the man who was asked to put a quart of water into a pint bottle.

RECEIVED.—A. R. A.—J. B.—A Provincial Architect.—T. C.—M. A.—A Surveyor.—C. E. (London)—F. G.—H. R.—R. C.—M. D.—S. B., &c.

#### HOME AND FOREIGN NOTES.

A handsome new school, erected by the Glasgow School Board at Garnethill, at a cost of over £16,000, has been opened.

On Saturday plans were submitted to and accepted by the Glasgow Dean of Guild Court, for the erection of a new asylum for the blind, in Castle-street, at a cost of £20,000.

DEFENCE OF THE FORTH.—A commencement has at length been made with the too long delayed provision for the defence of the Firth of Forth by the erection of fortifications on the island of Inchkeith, and of a battery at Kinghorn Ness. More than once in the history of Scotland, Inchkeith has played an important part as a defensive outpost of Edinburgh and Leith, but it has more frequently attracted attention as the point which, if fortified, might have easily beaten back successful foreign invasion of the Scottish shores. The forts now in progress of erection will be armed with heavy Armstrong guns, commanding an extensive range, and wholly commanding the entrance to the Forth.

OIL v. GAS.—Last week the Romford Board of Health discussed the respective merits of gas and oil for lighting the public lamps of the town. Both systems have been tried. It was generally admitted that gas gave the most satisfactory and least troublesome light, but it was stated by several members that the board would save £200 per annum upon the tender of the gas company by continuing to use oil. The number of lamps is 110. Last year the saving through using oil was £125, but this year less will be required for plant, &c., and oil is 2d. per gallon cheaper. It was agreed to continue lighting with oil, and the tender of the gas company was rejected.

NEW YORK.—The stranger in New York is first struck with the innumerable and garish street signs, and next with the height of the buildings in that city. On Broadway, and the principal streets leading therefrom, the buildings for the most part are six or seven storeys high. Many structures are

away up in the nines and tens, notably the Western Union Telegraph, the *Tribune*, the *Post*, and the Equitable Insurance Companies' buildings. The lower floors of these immense structures are usually occupied by shopkeepers, and the upper by professional men, lawyers, architects, &c., who have their offices "up in the clouds," so to speak. Ready access to all of the floors is had by means of steam lifts, or, as they are called there, elevators. These lifts are continually ascending or descending with passengers during the business hours of the day, often conveying nearly a score of people at a trip. When needed, they are lit up with gas. The interiors are tastefully upholstered, and seats are provided. All of them are provided with safety appliances, so that in case of any accident to the machinery no casualties can occur to life or limb. Steam lifts are also used in all large warehouses, both retail and wholesale houses, and in hotels. Many of the latter lodge their guests on sixth, seventh, or even eighth floors, to which they are conducted by the lifts. London builders need not be told about the economy in the use of high buildings, where, under one roof, and upon the same ground-rental area, there can be put double the customary number of rooms for renting to tenants. The French flat system of house building is popular in New York. Houses are now being built in the best parts of that city, where on each floor from five to eleven rooms can be had *en suite* fitted up with all the latest modern improvements, baths (hot and cold water), heaters, and dumb waiters for the conveyance of whatever articles are needed for the household from the streets or cellars to the tenants' apartments.

**MR. RASSAM'S FINDS.**—Among the monuments which have been brought to England by Mr. Rassam, and which have just been unpacked at the British Museum, are two of the greatest importance to archæology. These are two oblong open frames, one considerably smaller than the other, the larger being about 20 ft. high by 15 ft. broad, and bearing a strong resemblance to a gigantic hat-rack. Out of each of the side-posts of this curious structure project seven arms, each of about as many feet in length. The remarkable thing about this monument is that it must originally have consisted of bronze plates nailed to a wooden framework. The wooden framework has decayed in the course of ages, and the bronze case alone remains. But the presence of a wooden basis, and, curiously enough, its exact thickness, can be determined by the fact that some of the nails attaching the plates are still in their places, clinched about three inches from the inner surface of the plates. The face of the bronze is covered with representations of battles and sieges, with descriptions in the cuneiform character accompanying any of the more noteworthy of them. The monument was discovered at Balawat—called in the inscriptions on it "Imgur-Beli"—and about nine miles from Nimraud. A statement in duplicate, found in a coffer on the same spot, places its erection in the reign of Assuru-natsir-abla (circ. B.C. 800). The use of these two curious structures has not yet been guessed; but a couple of pivots have been found with them, and there are some signs of sockets in the lower part of the frames, which make it probable that they were intended to revolve. The smaller monument is like the larger one, except that it has the seven projecting arms only on one side. It will probably be some months before these interesting objects can be prepared for the inspection of the public.—*Academy*.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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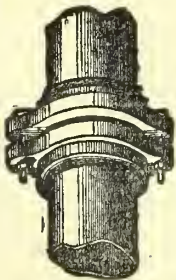
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Contents.

|  | Page |
|--|------|
| THE NATIONAL MONUMENTS OF IRELAND .. ..                              | 259  |
| Irish Board of Works Administration .. ..                            | 260  |
| The M. G. W. Railway Company, and their Engineer ..                  | 262  |
| The new Science and Art Museum, Dublin .. ..                         | 262  |
| Adversaria Hibernica—Literary and Technical ..                       | 263  |
| The Importance to Artisans of Acquiring a Knowledge of Drawing .. .. | 264  |
| Public Works in Ireland—Third Article .. ..                          | 267  |
| Correspondence—  |      |
| Irish Architects and the Royal Institute of British Architects .. .. | 268  |
| Stage Footlights .. ..   | 268  |
| Water Supply to North Union Workhouse .. ..                          | 268  |
| A Query for Handrailleurs .. ..                                      | 269  |
| Our new Northern Township .. ..                                      | 269  |
| The Architect-Slater .. ..   | 269  |
| Our Sea and Harbour Marks .. ..                                      | 270  |
| Action of Vartry Water on Boilers .. ..                              | 271  |
| Archæological Meetings .. ..   | 271  |
| The Future of Public Health .. ..                                    | 272  |
| The Geology of Dublin and its Environs .. ..                         | 272  |
| Lines for the Carpenter .. ..  | 273  |
| New Pulpit and Lectern, Charleville Church .. ..                     | 273  |
| To Correspondents .. ..  | 273  |
| Home and Foreign Notes .. ..   | 273  |
| A new Mineral White Pigment .. ..                                    | 274  |

THE IRISH BUILDER.

VOL. XX.—No. 450.

THE NATIONAL MONUMENTS OF IRELAND.



N the late inquiry into the administration of the services of the Irish Board of Works, that of National Monuments was the subject of some queries on the part of the committee, which were replied to by Mr. Roberts, the Assistant Commissioner of the Board. Before taking note of what was elicited on that occasion in respect to the supervision and repair of our National Monuments and ecclesiastical ruins under Mr. Deane, we will pass under notice the superintendent's report as given in Appendix E to the Forty-sixth Report from the Commissioners of Public Works in Ireland, now in course of review in our pages.

As already stated, during the past year the number of ancient buildings placed under the supervision of the Board of Works has largely increased, and the grant for their maintenance has also been augmented. The original list comprised only 14 buildings and crosses in 10 counties, but the second list contains 105 buildings in 23 counties. Owing to the difficulty of ascertaining which buildings worthy of preservation came within the 25th section of the Church Act, the list at present, though not all that could be desired, never-

theless, in the opinion of the superintendent, contains a fair selection of representative Irish ruins, which at a future day may be revised with advantage. From the report we learn that the original list has been nearly gone through—caretakers in many instances appointed, and “the buildings placed in a safe condition.” The new list is now in hand, and we are told that “arrangements are being made by which a larger number can be worked at simultaneously.”

As already stated in our brief preliminary notice, at Movilla, Ardtole; St. John's Point, in the County Down; Kilmacduagh, County Galway; and Howth Abbey, County Dublin, works are in progress. The first ancient building described in Mr. Deane's present report is that of St. Columb Kill's House, Kells, County Meath. This structure has been more than once described in our pages and in those of the late George Petrie and Mr. R. R. Brash, both of whom describe its architectural features and supply its dimensions. St. Columb's is one of those curious roofed oratories several of which are to be found in this country. With respect to the reparation of this building, the superintendent says:—“With the exception of some of the roofing stones and quoins, which were displaced by the growth of ivy and trees, the building was in fair condition, and little repair was necessary. It principally consisted of pointing to the roof, replacing the missing stones, quoins, removal of destructive ivy and trees, putting gate to doorway of enclosure, and general levelling and sodding of ground.” Woodcut illustrations are given by the superintendent of the plan of upper chamber, section of the building looking south, section looking east, and enlarged drawings of windows at east end and south side.

Donoughmore Church and Tower, County Meath, is next briefly reported upon. “The Tower here,” remarks the superintendent, “is the main feature of interest, the masonry of which is particularly good. The cone has fallen, but the condition of the wall is such as to require no repair.” An illustration is given of sculpture over the door of the tower which “is particularly interesting.” The ecclesiastical ruin is thus briefly noticed: “What remains of the fourteenth-century church has little to attract attention. The remains of the belfry and eastern end alone remain.” Of Gallerus and Kilmalkedar, in the barony of Knockquiney, County Kerry, the reader of the late Mr. Brash's work, originally published in these columns, must have some knowledge of. These singularly interesting ancient monuments were fully described and illustrated by Mr. Brash. The oratory of Gallerus formed one of the original list of National Monuments marked for preservation, but Kilmalkedar is included in the second series. “Few districts in Ireland,” remarks Mr. Deane, “furnish a more interesting field for the archæologist than this barony. Within a radius of a mile from Gallerus are to be found Kilmalkedar—several oratories of the Gallerus type, beehive structures, Ogham stones, ancient inscriptions, and conventual buildings of the fifteenth century. The church of Kilmalkedar itself exhibits a beautiful Romanesque work.” Of the oratory of Gallerus, the superintendent thus writes, and it will not be amiss to compare his description with that of Mr. Brash, in his “Ecclesiastical Architecture of Ireland”:—“Built of stones, laid without mortar, and selected with such care and skill

that notwithstanding the irregularities of their shape, a close-fitting joint is attained. Not only is each stone fitted to its neighbour as far as the outline is concerned, but the bed is also considered, which is at such an angle to the plane of the building as to prevent the ingress of rain, and such stone is so fitted that although in some instances movable with the hand, displacement would be impossible without violence.” The masonry of this building, as described by Mr. Brash, is of flat greenstone rubble, carefully built, the door dressings and quoins being neatly wrought, and there is no appearance of mortar in the walling; but to quote Mr. Brash's own words:—“The great antiquity of this structure is undeniable. Dr. Petrie was so impressed with it that he admits, with the historian of Kerry, that it ‘may possibly challenge the Round Tower as to point of antiquity.’” “The masons who designed and built this structure—” continues Mr. Brash, “in the section adopted, the material selected, and the character of the workmanship—shewed an amount of practical knowledge, skill, and experience, that must have been the result of long and extensive practice. With ordinary care and a few trifling repairs, this little structure may last another 1,000 years for aught that it has worn in the past. Surely these old Gaelic stone masons built for all time.” Mr. Deane gives an elevation of the doorway of the oratory from the inside, and remarks upon two perforated stones over the lintel, which he thinks “evidently have some connection with a mode of securing the opening from the inside. Several theories have been put forward as to the use of these holes. My impression is that a lifting shutter with two horns (see sketch No. 8) was used as a door, which could be secured at the bottom by a transverse or one running from the eastern end to the foot of shutter, which would effectually prevent an assault from the outside, and that this door or shutter was used only when the occupant wanted to secure the building from intrusion. At Scattery Island the holes exist, but do not go through the lintel—confirming this theory.” We think Mr. Deane's theory, or adopted one, in this instance is a somewhat fanciful one, and would need some more proofs to support it. To secure a building from an assault, and from a mere intrusion are two very different things. The drawing which Mr. Deane gives shows certainly a picturesque specimen of a battened or ledged door which might have been manufactured by splitting round timber and subjecting the sundered lengths to the hatchet and adze, instead of sawing the timber into leaves. We know not what might have been the state of carpentry or joinery in the very early days when Gallerus and Kilmalkedar were built; but the Gaelic masons, who roofed their towers and oratories with stone instead of timber, were not likely to provide such timber doors as are sketched by Mr. Deane to protect their interiors from assault, whatever they might adopt for temporary purposes, such as preventing a mere intrusion at times when it was not desirable. No doubt the domestic edifices of the ancient Irish were to a great extent constructed of wood, though we have evidence enough that many dwellings, and particularly store-houses, were built of stone. But in the important buildings instanced and others where stone roofs were considered necessary, massive doors would also be deemed indispensable, and some careful attention would be paid to their skilful

construction, with a view to strength and durability. Speaking of the window at east end, of which an illustration is given, Mr. Deane observes that it "shows a curious combination of complex jointing and rude masonry. Over this window are several projecting stones, the use of which I cannot pretend to say. At either end of the ridge are sockets, evidently for crosses. The oratory has been carefully fenced by Lord Ventry, and requires no repair."

A number of beehive structures which exist a short distance north of Gallerus are noticed by Mr. Deane, and their arrangement is illustrated. "The roofs have fallen in, but the walls and the entrances are clearly defined. These ruins have been fenced and protected. The character of the masonry is much older than Gallerus, with no attempt at jointing or cutting stones." These *clochans*, as they are called by the peasantry, will be found described in Mr. Brash's work, and they are found to exist in several districts on the coasts of Clare, Galway, and Mayo. Though of the beehive form, some are circular on plan both inside and outside, and others are oval; again, more are said to approach the form of the human eye, while some form a quadrant or quarter circle. Mr. Brash instances some of these singular structures which are circular or oval externally, while internally they are square or rectangular. Mr. Brash observed that his object in describing these buildings was "to shew the source from whence the early Irish Church had the simple and massive architecture of her religious buildings. The *clochan* was evidently the original type, and the curve-sectional structures at Gallerus, the transitional stage to the rectangular and vertical walled oratory."

Concerning Kilmalkedar, which is truly one of the most interesting churches in Ireland, Mr. Deane writes:—"It has been suggested that the nave was vaulted; I am disposed to think that it was not so, but to a certain height the walls were corbelled so as to receive a roof of narrower span. I am borne out in this idea by the absence of any indication of an arch on the two gable walls higher than would be suggested by the height of corbelling. The original chancel, which has been rebuilt, probably to extend its proportions, shows at either sides the jambs, sills, and portion of arches of the original chancel windows, as indicated on plan and section. There can be no doubt from what remains of these windows that they occupied a position in a semi-circular or curvilinear eastern end."

The superintendent, having in his Report of 1876, with reference to the east end of Cormac's Chapel at Cashel, pointed to certain indications of a change of form which would lead to a supposition that it also had an apsidal end, now observes:—"The absence of such termination to ecclesiastical buildings in Ireland generally adds an interest to these two instances of a probably contrary." The present or enlarged chancel of Kilmalkedar, although of more modern date, is considered peculiar because retaining the same Romanesque features as the rest of the church. Mr. Deane considers the arcading of the interior of nave "is interesting as a clue to the original design of the internal side elevation of Cormac's Chapel, which has been mutilated by the addition of modern window openings."

Concerning the work of reparation at Kil-

malkedar, we are told that—"The terminal to one of the gables was found in the accumulated rubbish, and replaced. The tottering masonry has been secured, and such other repairs effected as were necessary to place the ruin in a safe condition. Somework has still to be done, which, owing to the inclement weather, could not be completed last year. In the graveyard are several crosses and sculptured stones of interest." The adjacent buildings near the Church of Kilmalkedar comprise an oratory, said to be ruder in construction and not so large as that of Gallerus. There are also remains of domestic buildings, and near to these again is another oratory, the roof of which has fallen in. "The masonry is different from any of the others, being an intermediate type between that of Gallerus and the beehive structures." An illustration is given, showing its present condition.

We must postpone until our next issue a notice of the remainder of the buildings reported upon by Mr. Deane, as also some remarks on the conservation of our National Monuments.

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

As we cannot attempt to go through all the services administered by the Irish Board of Works, or deal with the report of the late Committee of Inquiry thereon, we must content ourselves with selecting a few more points and passages coming under the scope of our advocacy.

On the subject of the Land Improvement Acts the committee in their report observe:

"After the remarks we made about the 'Labouring Classes' Lodging Houses and Dwellings Act, 1866, we have special satisfaction in noting the successful working of these acts as regards houses for agricultural labourers. Out of a total number of 443 applications for loans for this purpose, only some twenty cases have been refused, and a sum of upwards of £210,000 has been sanctioned. Considering, however, the importance attached to the provision of improved dwellings for the poor, it becomes a question whether, notwithstanding the evident advantages already derived from the Land Improvement Acts in this respect, still further inducements might not reasonably be offered to owners."

The committee go on to say that they do not see why collateral security should not be taken in the case of advances towards cottages for agricultural labourers. They think that these cases are entitled to a little more latitude, it being evident that the culture or improvement of a particular piece of land need not be the only or even the primary reason why an application should be made for a loan. Indeed, the committee justly hold that the object may be the welfare and comfort of the poorer classes in the neighbourhood generally. Under the act 23 Vic., c. 19, the Board of Works is precluded from lending for more labourers' cottages on any estate or portion of an estate given for security than are necessary for its proper cultivation; but this provision, the committee suggest, may with proper precaution be relaxed. As the erection of houses of the above class subjects estates to charges for dilapidation, the committee think some guarantee should be required binding the owner during the currency of the loan to maintain the cottages in repair, and also to ensure them against damage by fire to such an amount as the Board of Works may direct. The cost of labourers' dwellings built under the acts has

been found to vary considerably, ranging from £60 to £180, so it is thought to fix a limit would not be practicable. The committee say:—

"If the legislature has thought fit to assist proprietors in erecting houses for their tenant-farmers as well as labourers, it is clear it had no intention to limit building accommodation to any particular class of persons; therefore the possible abuse, to which, as we pointed out, applications under the other Labouring Classes' Dwellings Acts are liable, does not seem to exist; and we need not here suggest any precautionary measures in this respect. We think, however, that as a matter of policy the Board of Works will do well to encourage as far as possible the cheapest house that can be built with due regard to stability of structure, health, and cleanliness, so that the advantages of the acts may be placed within the reach of the greatest number of people, and within the means of the poorest."

These suggestions of the committee are good and sound in their tendency, and we trust that they may be duly considered and adopted.

Under this head the committee make another suggestion—Whether a somewhat wider definition might not be given to the term "owner," as described in secs. 6 and 7 of 10 Vic., c. 32. They say:—

"We understand that applicants for the most part are owners in fee and for life, as might be expected; but we think that a larger number of tenant-farmers and others having more limited estates and interests in land, might be brought within the provisions of the acts, and this might be done by extending the borrowing powers to any tenant, in actual occupation, rated at £12 annually, who may be holding under a lease from year to year, or for terms of which five years shall be unexpired, provided his landlord joins in giving security."

Under the Limited Owners Acts, which differ but little in principle from the Land Improvement Acts, the purposes for which land owners can charge their estates are more general. Besides agricultural improvements they include the construction of railways, tramways, canals, landing places on sea coasts, lakes and rivers, and mansion houses. The interests defined by the term "land owner" are more limited, the period for which estates may be charged are shorter, and the land owners may borrow in the open market. Very little use appears to be made of the facilities under the Limited Owners Acts, and the duties of the Board of Works in this case are very light. The committee not unwisely suggest the incorporation of these acts with the Land Improvement Act, as it is the existence of the former unnecessarily multiply the number of the statutes having a close affinity to each other.

The National School Teachers' Residences (Ireland) Act, 1875, though an amendment act of the Land Improvement Act, yet for practical purposes it may be regarded as a separate measure. Under this act the Board of Works on the recommendation of the Commissioners of National Education may make loans not exceeding £250 towards assisting any person in the erection, enlargement, improvement, or purchase of dwelling houses for teachers of National schools not vested either in the Education Commissioners or in trustees. The Board of Works do not lend towards vested schools, but, provided the total cost of a dwelling house attached to such schools does not exceed £200, the Board may grant a moiety thereof. In concluding their remarks on the head of the above act, the committee say:—

"We are informed that the question has recently been raised by the Board of Works and the Commissioners of Education, whether the purchase of a house which has already been built and devoted to a teacher's residence, comes within the meaning of the act, so as to entitle the person who has incurred

\* See ante.

the expenditure to a loan. We are of opinion that the object which the Legislature had in view was to promote future education by encouraging the erection of houses; and that it was not intended that a retrospective effect should be given to the act, which would involve the advance of public money without necessarily securing the addition of new teachers' residences."

On the subject of Arterial Drainage, the Committee of Inquiry, in their Report, give considerable details. Commencing with a general review of the Drainage Acts, the first period (1842-63) is considered, embracing part of Lough Corrib Drainage Scheme, the Hind Drainage, and the Galway Mills. The second period (1863-78) is next dealt with, followed by a number of "conclusions and suggestions." After clearly stating the purport of the Drainage Acts of Ireland, the committee go on to prove that during the last thirty-five years, the Government has pursued two distinct lines of policy in regard to arterial drainage in Ireland. From 1842 till 1863 it was itself the agent for carrying out works of this description, and from 1863 down to the present time, the responsibility of the execution of drainage works has been thrown upon proprietors; the Government confining itself chiefly to providing on moderate terms the requisite funds. The committee proceed to consider the two policies, and to determine which worked the most satisfactorily through the instrumentality of the Irish Board of Works. After speaking of the extent of the works executed under the act of 1842, and the remissions on the recommendations of the so-called Special Inquiry Commissioners under the act of 1853, the committee thus describe that commission:—

"That commission was composed of two members of the Board of Works of that time, who had been specially concerned with the drainage operations; and, therefore, however careful were the inquiries, and however liberal the allowances made, the arrangement laid itself open to the construction that the Board was itself sitting in judgment upon its own acts. The remissions in question were very large, amounting to over a million of money. There still exists a feeling in some quarters that the awards finally made were out of proportion with the actual benefit derived."

In reference to the above remarks, Col. M'Kerlie, in his "Statement," says:—

"In the remarks on this subject, and in describing the constitution and action of the special commissioners, an inaccuracy appears which it may be well I should point out as one of the two special commissioners referred to. I may observe I had nothing to do with the designing or carrying out of the works, my duty being confined to seeing to their being brought to an immediate close, according to limitations already determined by the Treasury; and to the ascertaining what would be a fair amount to charge the proprietors with for the benefit received,—that amount was ascertained by, in the first place, having a careful survey made of the extent of lands improved, and then employing an independent valuator (whose instructions were to give the benefit of any doubt to the proprietors) to ascertain the value of the benefit. The principal sum to be paid in each case, I may add, was arrived at by taking 14 years' purchase of the valuation, the result of which was that the charge became redeemable under the form of an annuity extending over 22 years, the annual instalment being under the benefit received."

In respect to the Hind River Drainage, and the complaints of Mr. Fawcett, one of the proprietors of the district, as to the obstructions at the mouth of the river, it appears by the report of the committee that the case was reported to the Board, who accordingly sent down their engineer, Mr. Green. The inquiry proved that there were serious impediments to the proper discharge of the river. The opinions formed by Mr. Green, after careful soundings, were coincided in by Mr. Fawcett,—that in order to secure a properly sufficient outflow, works require to be done

affecting both obstacles. The action of the Chairman of the Board in this matter is thus remarked upon by the committee:—

"Col. M'Kerlie, who subsequently visited the spot, but took no soundings, came to a different conclusion. He considered that the impediment to the drainage was solely due to the bar at the mouth of the river, and that the shoal did not interfere with the discharge, because the waters would be 'dissipated in and brought to the general level' of the lake before they reached that point. The result was that the Drainage Committee were informed that they were alone responsible, and that the remedy for getting rid of the real obstruction lay in their own hands."

The committee think that an effort should at once be made by the Board of Works to secure a settlement of the points in dispute. The committee also suggest to the commissioners of the Board that they might give an undertaking to the Drainage Committee that, if the removal of the bar be found not to afford an effectual relief, they will, on their part, take the necessary steps to enable them to execute what works may be necessary outside the drainage district.

Col. M'Kerlie, in his "Statement," in reference to the Hind River, considers the case has been misapprehended by the committee, and this was caused, he has no doubt, from there not being sufficient time to give full explanation at the late inquiry. The Chairman of the Board earnestly begs their lordships of the Treasury to refer to the Board's recent report on the whole case, and their lordships' decision thereon.

"It will be seen," observes Col. M'Kerlie, "that in the part of the case which goes back to the time of the Award, in 1859, Mr. Fawcett was most liberally dealt with, and that the impression of the works being incompletely carried out is erroneous; and, that in regard to the second part, the question of maintenance occurring last year—which is also referred to in the report—I would beg to observe that the correctness of the opinion I had formed in regard to the proper course to be taken and the effect of the shoal outside was not only fully admitted by my colleague, Mr. LeFanu, by the second commissioner, Mr. Roberts, and by the Board's engineers, but was also supported by Mr. Fawcett's own engineer, Mr. Lynam, in a report received by that gentlemen about the time of the inquiry. I would beg to add in reference to the remarks made by the commissioners that not only was the utmost consideration given to the matter, involving as it did legal difficulties, but there existed on the part of the Board the most anxious desire to give the Maintenance Committee (Trustees) all the assistance in their power. It is with deep regret I find my efforts to have been misunderstood and unappreciated; and it may not here be out of place to point out that the Drainage Maintenance Act, under which the matter in question has arisen, was initiated and suggested to the Government, and its outlines prepared by myself."

The case of the Galway Mills, involving the complaints of the Galway millers, and the scheme for increasing their water power, receives due attention on the part of the committee. The action of the Board of Works in this case is remarked somewhat strongly upon, but we cannot delay over the details.

In reviewing the whole subject of the Galway Mills, the committee feel bound to state that they think the blame is attributable to the Board of Works in more than one respect. There was a delay in the introduction of the bill, and, pending its introduction, the mills are said to have been exposed to the liability of getting more and more out of repair, and have been in an increasingly worse position to arrest the falling off of the grain trade of Galway. An error of judgment was committed, in the opinion of the committee, in this case; and the Board failed to consult local interests:—

"A want of decision, promptness, and tact such as was here exhibited by the Commissioners of

Public Works not only causes annoyance and inconvenience to those immediately concerned, but is prejudicial to the confidence of the general public, which, as the heads of a great public department, the commissioners should command."

The two points to which Col. M'Kerlie, the Chairman, in his "Statement," confines himself to answer are—(1) The fairness of the charge imposed upon the millers for the improvement of water power; and (2) the absence of any power to appoint trustees. He refers to the Board's report of 1871, feeling assured that it will bear out the claim which is made for the liberal spirit in which it was the desire of the Board to deal with the Galway millers. The Chairman says:—

"When their recommendations are looked at, and it is seen that while the millers consented, pursuant to their unanimous application, to the improvement of their water power at a cost of £11,000, that the actual delay was £31,000, and that the actual charge amounts to only £7,000 (in addition there is a charge of £4,000 for new machinery supplied to certain of the millers on their special application, at prime cost and without interest, and which sum is not included in the above general expenditure), that claim cannot be admitted. The allegation that the award was made arbitrarily, and that the result of the operations had been an actual diminution of water power, will also, I feel assured, be seen to be without foundation. The fact was, the millers had the fullest opportunity of representing their views in the draft award, and large concessions were made, while the full amount of improved water power promised was brought home to the millers' doors, and only required that they themselves should take steps for its application, which in several cases they did."

The committee having stated in their report that it would have been proper that the millers should have been afforded an opportunity of stating their views with reference to the application to the Government in 1872, Col. M'Kerlie replies:—

"I much regret that that was not done, but I beg to observe that the Treasury simply called for a report on the application, on referring it to the Board, and the main points being only such as the engineer (Mr. Roberts) who carried out the works could have any knowledge of, the necessity of consulting the millers did not appear, and the information to enable the Board to report to the Treasury was sought for from that gentleman alone. A reference to that report and to the recommendations of about the same period will show the spirit of justice and liberality towards the millers which actuated the Board at that date. With regard to the power to appoint trustees for the care of the water courses, I beg to observe that it was a point raised at the time of making the award, and was legally negatived; and I can only suppose—Sir Richard Griffith being chairman of the Board at the time—that the reason why no steps were taken to supply the omission was, that while the care of the most important part of them [the works] was duly provided for by being confined to drainage trustees, the remainder could without risk be left to the management of the millers as a body, in the same manner as they had been before the improvements were made."

After some remarks as to delays, which are said to be due to difficulties put in the way by the millers themselves, the Chairman alludes to the several bills that were prepared from time to time, and concludes on this head by holding that the Board have in no way been wanting either in their motives or action in the matter:—

"And looking to the fact that the proposition originated with myself, I trust that the unfavourable comments may be deemed to be attributable to the fact of the circumstances not being fully explained to the committee. I would further, in leaving this division of the report, beg to repeat what I pointed out to the committee during the inquiry, that out of 2,209 proprietors whose interests were affected by those awards in which I personally had a part, I am not aware of any other instance beyond those adverted to in the report, viz., two as regards drainage, and one in respect of mill power, in which, after that full inquiry which on their representations based on the draft awards made, any cause of dissatisfaction has existed."

In our present article, we have abstained

from drawing or indicating any conclusions of our own in regard to the administration of the Board of Works in the services touched upon. We have given passages from the Report of the committee, and we have fairly quoted from the "Statement" of the Chairman of the Board, who not unnaturally desires that he should not be misrepresented. In reading through the voluminous evidence, and then referring to the Report of the Committee, and, lastly in weighing the explanations and additional information afforded by the Chairman, one is almost puzzled in some instances how to decide. On the weight of the evidence brought forward at the inquiry, and judging by the amount of this evidence alone, we must admit that the Board is shown to be at fault in different directions, but from causes already stated, arising more from the defects of the system inherent to the Board of Works and other kindred bodies, than from faults of another kind.

We may, however, before we conclude our papers, touch upon both forms of evil, with a view to the remedy and the reforms in the future.

#### THE M. G. W. RAILWAY COMPANY, AND THEIR ENGINEER.

SOME matters cropped up at the half-yearly meeting of the shareholders of the Midland Great Western Railway of Ireland, which it would be well if they were subjected to a little more discussion, for some further light needs to be thrown on the working of the company and certain figures in regard to expenditure. We do not intend to go into details. In reply to a question the chairman said that the cost of the Castlerea accident was £2,220, and the cost of another accident was £750. We quote the following remarks from the proceedings as reported:—

Mr. A. O'Neill said he saw the large amount of £1,150 or £1,200 down in respect of damage to goods. This damage to goods must be the result of sheer neglect on the part of some one, and he regretted to see that over £4,000 was set down for the half-year on account of personal injuries and damage to goods.

Mr. Carleton, Q.C., said that the item in respect of damage to goods was not confined to the past half year. He found that for the previous half-year there was an item of £1,629 19s. 4d. down for damage to goods, so that on that year they suffered a loss of nearly £3,000 in respect of such damage. For other items of expenditure they had some return, but this expenditure was a dead loss, utterly irrecoverable. This expenditure amounted to nearly £9,000 a year. No explanation of that had been given to the shareholders, and no explanation would now be given, but that attention had been called to it for the first time.

Mr. O'Neill observed that the chairman said it was owing to inadvertence it had not been noticed.

Mr. Carleton said he gave him credit for that. He thought, however, that when a large sum of money was expended in a particular way, an explanation as to the nature of the expenditure should be given. It might be said that the shareholders should have confidence in the directors, but he thought the directors should have confidence in the shareholders. If they had not, they need not complain if their want of confidence resulted in very unpleasant disclosures.

The chairman said there had been no intention whatever to make any concealment. He regretted as much as any one could that they should have lost so much in respect of damage to goods, but having regard to the extent of their goods traffic—they had received over £130,000 for the carriage of goods and cattle—he thought £1,100 was not so great a loss in the way in question, especially when they looked to the working of other lines. He did not know to what fortuitous circumstance they were indebted for the presence of Mr. Carleton, but he might say that that learned gentleman, when he had been counsel for the company, had often congratulated him on the smallness of the expenditure in that respect.

The proceedings of the late meeting were not at all of a friendly or conciliatory character, and a good deal of wrangling and ill-feeling seems to have existed. The chair-

man himself was somewhat irate at certain statements made respecting the working of the company. Disclosures were made, and we fear others will still require to be made, and a suspicion exists in the public mind that an endeavour is afloat to cushion some unpalatable truths.

The "bounce" of a daily newspaper in defence of the company will not avail the directors much in glossing over certain ugly items. The resolution to pay Mr. Price, the engineer, £900, in addition to the £1,200 already paid him, gave rise to a wrangle, and several assertions which were met by the following statement of the engineer:—

Mr. Price said the chairman and directors promised to submit and recommend the resolution to the shareholders, but as yet he had not heard a single word of recommendation from the chairman's lips. He (Mr. Price) had been told that this resolution would be passed as a matter of course. The fact was that before he agreed with the board he was informed through Mr. Greene and Mr. Bennett that if he resigned he would be dealt with in the same way as the engineer of the Great Southern and Western Railway—that is, he would receive three years' salary. He (Mr. Price) sent back Mr. Greene into the board room to ask that the sum of £2,100 should be mentioned in money. Mr. Greene came back and said that that was settled.

Mr. Greene said that was false from beginning to end.

Mr. Price said he would state it on his oath if necessary. He sent Mr. Greene into the boardroom to know if they were unanimous, and Mr. Greene returned and said the directors were unanimous, and that the chairman would not oppose it. Thereupon he (Mr. Price) took out his pen and withdrew a certain letter he had previously written in regard to another matter. He then sent in his resignation on the faith that he would be paid £2,100 on his retirement. Mr. Greene said the directors had agreed to pay him £2,100, but so as to relieve his mind he would write him a letter to that effect. He considered that he had been treated in a disgraceful manner. He would now tell them why he resigned. He resigned because his health was breaking down on account of certain cares and anxieties which were on his mind. The fact was this, he had been asked to put his hand to accounts that he considered were not *bona fide* accounts to the shareholders. He would prove it, because he had got the returns for the half-year, and copies were in his possession. He would prove that a large sum of money was held over and not accounted for in the accounts. He spoke of materials in store to the extent of thousands and tens of thousands of pounds, and he said that these matters should be disclosed to the shareholders and to the auditors. The chairman said he would not disclose them to the shareholders and to the auditors. He (Mr. Price) then wrote a letter saying that he conscientiously believed it should be done, but it was not done to his satisfaction. He then said he would never put his hand to an account again. He said he would not take £2,000 and have the responsibility of signing all these accounts. He was amazed to find such a state of things. In the present half-yearly account £14,000 was put down for the whole materials used on the line, when the fact was that the amount was two or three times that sum. If he were to get £900 a-year he would not hold his tongue, and it was his duty to tell the shareholders that these accounts ought to be investigated. There was a *bona fide* agreement between him and the directors that he was to get a certain sum of money.

A shareholder said that according to Mr. Price's own account he should have made that statement years ago.

Mr. Price read a letter from Mr. Greene stating that the board had agreed, in consideration of his long services, to give him £2,100, and now Mr. Greene said that the board did not agree to that.

The chairman (Sir Ralph S. Cusack) made the following answer to the statements of the engineer, and after reading it we fear the public will come to the conclusion that more light is wanted:—

The chairman said that Mr. Greene authorised him to state that there was not the slightest foundation for saying that there was any arrangement on that occasion; that Mr. Price appeared to be labouring at the time under great depression. Now as to the other matters, he (the chairman) thought that by this time the shareholders should place some little trust in him and those six gentlemen who were associated with him on the board, who were all gentlemen of the highest honour and integrity. He should stigmatise as an unmitigated falsehood the statement that anything was ever held

over that was not submitted to the board, and put down in the accounts. He told them that day that twelve engines were to be charged to the revenue. They could not charge them all in one half-year. They had been wiping out the account; they renewed fifty wagons. Well, as to the holding over the matter as to the steel rails from one half-year to the other, it was done on the recommendation of Mr. Price, in his letter written in June, 1876, in his own handwriting. He was the author of that blind, and the board thought that they should work while the days were fine and long. They felt that they should do as much relaying as they could, and charge so much to each half-year. Now, as to the £1,400 of which Mr. Price spoke: They sold 4,000 tons of rails, and they had 4,000 tons more collected. Their expenses would go down, because their engineer was looking into the affairs of the company, and he had reduced 223 layers down to 120. He said that the number hitherto working on the line had not room to work. Now, what the board conveyed to Mr. Price was that they would give him this sum of money if the shareholders sanctioned it. He said he wanted to purchase certain family property, and the board decided on giving him £1,200 down, and submit the question as to the payment of the other £900. He (the chairman) had not said one word against the resolution, and yet Mr. Price had come there, and, in an unjustifiable, uncalled-for, and unmerited way, had libelled the board. If Mr. Price had imperilled this £900 he had only himself to blame.

In putting the resolution as to the payment of £900 to Mr. Price, which was negatived by a majority, the chairman again referred to Mr. Price's statements, which he characterised as slanders. We think the matter cannot be allowed to rest as it at present stands; and the sooner a fuller exposition is made of the transactions in question, the better will it be for the future of the company. Perhaps Mr. Price will feel called upon, in justification of his own conduct, to speak out more plainly and fully than he has as yet done.

#### THE NEW SCIENCE AND ART MUSEUM, DUBLIN.

As matters tend at present, it may possibly be several years before we see the proposed Museum an accomplished fact. The report of the Science and Art Department, recently issued, contains the following reference to the new institution:—

"We are most desirous of commencing the new Science and Art Museum at once, and steps were taken for the preparation of plans and estimates, so that the work might have been begun this year, but great objections were taken in Dublin to the only available site—one which we believed to be admirably adapted to the purpose—and a memorial to that effect, largely and influentially signed, was presented to the Irish Government. We are also informed by Lord Pembroke's agent that his lordship would object, under the powers reserved to him by the lease of 1855, to any building on Leinster Lawn. These objections appear to us to be founded on a misapprehension as to the nature of the building proposed to be erected, and the effect it would have on the present flower garden in Leinster Lawn, and we cannot but regret that it was not felt that the loss of a few flower beds would be far more than compensated for by a handsome, commodious, and well-lighted Science and Art Museum; but, under the circumstances, we were powerless in the matter. No step can be taken for commencing this building for providing proper accommodation for the National Library or for enlarging the Art School till the arrangements for removing the Agricultural Department of the Royal Dublin Society are completed, and even then the site will in no way be comparable to that across the end of the Leinster Lawn, while much delay is necessarily entailed."

If information through correspondence which has reached us be true, the present arrangements in Dublin are only provisional, and it is stated that Dr. Steele's appointment as director is but a temporary one. Among others the following names are being put forward as fully qualified to fill the future permanent position of director: Mr. Augustus Burke, R.H.A., and Mr. John Hungerford Pollen. Personally we know nothing about these gentlemen. On the supposition, therefore, that the present appointment is but temporary, we hope when the permanent appointments are confirmed that the right man will be found in the right place.

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

SOME people are hinting that a Parliamentary committee is needed to inquire into the administration of the General Post Office, Dublin, as well as the Irish Board of Works. We are aware from historical evidence there were huge abuses and scandals connected with the Irish Post Office fifty years ago and upwards, and since that time and up to the present we are aware there have been many defects, several of which have been remedied, but others still exist..

A history of the Irish Post Office from 1784 till 1831 has been written, by way of a "Brief Review," by an official of that department who knew a good deal of its internal management, and the abuses that existed in his time and during the period that Sir Edward Lees (the brother of Sir Harcourt Lees) was secretary. There are several Parliamentary reports well worth consulting, dealing with the management of the Irish Post Office under the old system, and down to 1831, when, in consequence of an inquiry, Sir Edward Lees was removed from the secretaryship of that establishment. The following reports will be found to contain interesting historical particulars, and to the local historian and reformer they will be valuable in many particulars:—The Ninth Report of the Commissioners appointed to inquire into the Fees and Gratuities in Public Offices in Ireland, ordered by the House of Commons to be printed the 2nd and 6th of February, 1810; A Supplement to the said Report, 20th of June, 1810; The Fifth Report of the Commissioners for Auditing Public Accounts in Ireland, 14th of March, 1817; The Sixth Report of the said Commissioners, 3rd of April, 1818; The Nineteenth Report of the Parliamentary Commissioners of Revenue Inquiry, 22nd of June, 1829; The Duke of Richmond's Evidence before the Committee on Reduction of Salaries, 30th of March, 1831. The above are the chief Parliamentary documents referred to by Mr. C. P. O'Neill in his "Brief Review" of the Irish Post Office in the form of a letter to the Right Hon. Lord Melbourne in 1831.

Pendant to the above, Mr. O'Neill's pages afford us many strange and curious particulars relative to the contracts, the appointments, jobs, privileges, and doings in connection with the departments of the Irish postal service under Sir Edward Lees. The housekeeper of the establishment certainly enjoyed a snug situation, with plenty of assistance to do the work she was supposed to manage. This housekeeper was the wife of a Mr. Stephen Draper, who for many years held the contract for supplying boats and express wherries for conveying the mails between Dublin and Holyhead. The express wherries were used whenever a packet by the state of the weather could not put to sea. Draper made well by his contract, for he had a good friend in office. It is shown that he received £700 each year over and above the sum for which, under proper management, the same duty could have been performed. With respect to profit on passengers, Draper himself acknowledged on oath on the 4th of July, 1810, that "one of the vessels carried in the preceding year 800 passengers at one guinea each." With profit on contracts and passengers, therefore, Mr. Draper netted between £1,600 and £1,700 a-year, exclusive, of course, of the profits made by his wife, the housekeeper under Sir Edward Lees.

Of this contractor Mr. O'Neill thus writes: "Who Mr. Draper was by birth, place, or original education, I am not prepared to tell, neither is it very material to know; but he and Mrs. Draper and Sir Edward Lees afterwards continued on terms of the most exemplary and edifying intimacy and friendship. Sir Edward was a very polite gentleman, and esteemed as a practical *beau idéal* of fascination by that lover of the sexes which claims to be the judge beyond appeal of the 'finished man.' Mrs. Draper was comely as well as gay, and innocently endearing; and, by her

diversified accomplishments, created a moral *point d'appui* or binding centrepiece of mediation in that friendship which united her husband to the admirable secretary, so that from unanimity of sentiment they seemed made for enjoying the society of each other. Mr. Draper was esteemed in his way to be a good, quiet sort of man, and given to oblige, and exempt from the little vulgar passions of suspicion, envy, and jealousy."

A nice picture this, in sooth; but the family party reigned in public offices in Sir Edward Lee's days, and we are not sure but the family party still reigns in several public offices, corporations, and local bodies. Nepotism, or the love of one's relations and friends, is still a strong ruling passion of the human mind; and where public moneys are to be dealt with, many persons consider it no harm, to scatter it, literally heedless of the protests of the taxpayers. Mr. Draper enjoyed several profitable minor contracts in connection with the mail service, and had travelling allowances; but it would be tedious to tell all the benefits he enjoyed at the public expense.

Mrs. Draper's "politeness" to the secretary of the Post Office led to her appointment as housekeeper in 1814, on the death of the previous one. The following is an account of the preparations that were made for installing her in her new office, and of making her feel comfortable and at home under the wings of the secretary:—"Several new arrangements were organized, all portending the vast importance of the person rather than according with her relative station in a public and national establishment. A number of officers who had bed-chambers in the eastern and southern squares of the building were turned out to afford the housekeeper a more extensive suite of apartments; and what created some merriment among the wags frequenting the office was the *ingenuity of the housekeeper in breaking a door through a middle wall*, in order to facilitate the communication interiorly between her own residence and the apartment of the secretary, where a door had never before been thought of as requisite for the purpose of any correspondence known to the *law-merchant*." The yearly income of the housekeeper, exclusive of emoluments, was £100. In the old post office her predecessor was allowed two servant maids, each at £30 a-year, but in the new Post Office into which Mrs. Draper entered in 1818, she had an annual allowance of £240 for eight housemaids, £67 12s. for two fire-lighters, and £65 14s. 3d. for two lamp-lighters. "The apartments," writes Mr. O'Neill, "which she occupied were most extensive and the most splendid imaginable. Every article required in her department was provided in the most ample manner, and at a most extravagant rate—such as coals, soap, candles, ironmongery, earthenware, upholstery, linen, drapery, &c., the cost of all which when once purchased was entirely vested in herself; but notwithstanding, we find she had an allowance of from £195 to £250 a-year under the head of 'petty incidents.'" In an address to Lord Melbourne, Mr. O'Neill pointedly refers to these "petty incidents," and says, "your lordship and the public must be at a loss to discover for what purposes were these large sums charged in 'incidents.' There were no additional expenses to which the housekeeper could be liable where everything was provided. I am equally at a loss, as I would be loth to seek an explanation from the title of Dryden's tragedy regarding a Roman triumvir." The housekeeper of the General Post Office was, however, in favour, and her allowance did not end with the above. In 1824 and 1825 for "housekeeper's stationery," there appears a sum of £10 12s. 8d. "Now, it is notorious," writes Mr. O'Neill, "that she always received whatever stationery she might require out of the office, even twenty reams, should they be sent for, would be promptly forwarded." At another time the housekeeper is allowed £10 19s. 6d. for the carriage of coals from the Post Office vaults, though her male assistants performed the labour. Again she receives £19 for a

few green baize or stuff bags for letter carriers, which could be purchased at the time for less than £3. She also got an allowance in the laundry line, the duties of which were performed by the housemaids. Several other startling items in relation to the housekeeper could be adduced, showing how the public moneys were expended. There were no furniture clerks or other clerks in those days, as in the Board of Works at the present, to check the above accounts. Sir Edward Lees, in reply to a question from the Commissioners, said he "checked the housekeeper's accounts." How well he performed the duty will be seen in various ways, and from the single fact that he allowed for the "washing of 153 pairs of sheets" in "incidents," where there were eight housemaids engaged at £240 a-year to do the work. When the above was allowed, it might well indeed be asked what became of the £600 a-year for soap.

Mr. O'Neill, in his "Brief Review," furnishes several other startling revelations concerning Mrs. Draper, her doings, and the petty annoyances to which she subjected several of the under officers and clerks in the Post Office. But it was not in the housekeeper's department alone that the jobbery and plunder went on of the public moneys—it ramified all the departments. The franking privilege was greatly abused by the secretary on behalf of his relations and friends, and also by several other officers in the Post Office, who acted as agents to several noblemen and gentlemen. Public officers drawing big salaries held outside appointments, and some were extensive land agents.

Technical education is becoming a popular cry with many whose fathers scouted the idea that anything more than a smattering of the three R's was needed for the artisan and labourer. The neglect of technical education has, however, of late years worked ill to several British industries, and has led to Belgium, Germany, and Sweden, and even the United States, underselling England in her own markets, and supplying at the same time as good and in some instances a better article. The practical part of education for industrial pursuits must begin in the workshop and factory, but the principles upon which trades and their operations are based can be learned in schools or industrial colleges, which latter are becoming a necessity.

The nominal representatives of the old trade guilds of London, i.e. the City Companies, have, by the force of public opinion, been compelled to move in the interests of technical or industrial education. The funds they hold are not theirs, and they should be made to thoroughly understand that they are little more than trustees. What these companies may devote to technical education purposes should not be accepted as mere favours, but as rights long unjustly held from the classes they were originally intended to benefit. The City Companies can never, of course, become again real guilds of trade. At present they are little more than political guilds, acting as feeders to the major Corporation. Their reform has long been threatened, and it certainly will come sooner or later, notwithstanding that these City Companies themselves may effect an alteration in their constitution, and vote moneys for the foundation of a technical university. In the meantime, however, it is well to see these companies doing a little in the interest of real education under a species of compulsion. The trusts they hold should, without the least doubt, be administered in the interests of education and charity, and not, as it too often has been for years, for the benefit of the members of these guilds, or in the political interest of their party. No reasonable person would deny these guilds the right of using a portion of the funds they hold for whatever expenses legitimately occur in carrying on their business in relation to their trusts or management of their properties. Outside this work, however, the wealthy companies should move in the interests of education, charity, and skilled labour. H.

### THE IMPORTANCE TO ARTISANS OF ACQUIRING A KNOWLEDGE OF DRAWING.\*

My purpose in addressing you this evening is to point out the advantages of the knowledge of the art of drawing to mechanical men; but I must preface my discourse by shewing, as far as my abilities will permit, how that knowledge can be acquired. It has always been my belief (one in which I am not singular) that the power of drawing is possessed naturally by man, and that it exists latent in him; and I am borne out in this view by the manner in which most savage nations attempt to illustrate their ideas by means of pictorial signs or hieroglyphics, to supply the place of more scientific writing. Drawings are made, rude or elaborate, as the peoples are more or less inclined to civilisation, their models being the objects familiar to them, and which they may wish to describe or express: for instance, the weapons of warfare, such as spear or arrow heads, to signify warriors; and other implements that, by suggesting the callings or employments of persons, bring before the mind's eye the persons themselves. The early life of many of our greatest painters, where ascertained, serves to show us how far this truly great gift is natural, and several are chronicled in lives of eminent painters, sculptors, and architects in the very popular work of Allan Cunningham. The unttaught New Zealander exercises the natural love for delineating beautiful forms in the ornamentation of his person, and we have all seen the intricate and graceful combination of lines that he employs in the development of his object. The native African also gives his fancy and natural talent play in the engraving of the skin of the gourd or calabash that serves him for culinary purposes, in a manner comparatively astonishing, when we reflect on the smallness of the means at his disposal for producing fine forms. The discoveries of travellers in distant lands all tend more or less to show us that man in his natural state possesses this gift, which only requires a little cultivation and encouragement to render useful.

I do not mean to imply that all men are alike gifted in this respect; but although, for instance, all men cannot sing, and every man is not an orator, still no one will deny that speech is not a natural gift, or that music is not a divine attribute of man. Many persons take pleasure in music who cannot understand a drawing. From their earliest infancy children will endeavour to imitate musical sounds, and are lulled to sleep by them; and less difficulty exists in developing musical taste, at least so far as a pastime, than artistic taste. But the difficulties that are supposed to exist, and which prevent many from unfolding or bringing to light their latent talent, often lies in the obtaining of suitable materials. Nature has endowed man with natural musical organs, but she has not placed a pencil in his hand, being apparently content with giving him instinct to use it when it is placed there. Children are often sneered at for attempting to draw by those who should be the first to encourage their efforts; they require some quiet, some more room than can, perhaps, be afforded to them; they are obliged to commit to memory long tasks of (however useful) most uninteresting matter; and when their minds would, probably, seek relaxation in drawing, there are many causes to nip the flower of genius in the bud, and in innumerable unsuspected cases the child grows up with the gift lying dormant, and goes to his grave without endeavouring to awaken it. This is much to be deplored, especially in the case of working men, who, having this means of amusement in themselves, need not seek the excitement of the tavern or beer shop, nor resort to the baneful effects of the glass or tobacco pipe to help to pass their evenings; many a scene of riot would be avoided, and much heartfelt sorrow and misery, were these means culti-

vated; oftener should we witness domestic happiness, in even the humblest home, where the magic of the fine arts had penetrated, and where the minds of the members of the family had thus been drawn from grosser matters, and attuned to receive better things. It has in this an advantage over the sister art, music, which too frequently leads to dissipation; and many a man has lived to regret his musical abilities, that too often have led him into society not always, perhaps, unobjectionable, causing him to forsake the blessings of home and to neglect important business whilst pursuing the siren pleasure! Drawing must be practised in quiet; it has no affinity for noise; it is in the silence of his chamber that the artist's ideas are arranged, and, although surrounded by the smiles of his family, he may work these out either for profit or amusement,—he shrinks from the inquisitive gaze of strangers. On the other hand, the musician courts applause.

Amongst the many improvements of the age are the attempts making by the English and other governments to draw out the natural gift of drawing; and although as yet\* many of the endeavours are more or less misdirected, still a great point has been gained in the national confession that the necessity exists for the development of the art, and we must all acknowledge that every day that we awaken the excuse for ignorance becomes smaller; every day some new means of bringing into usefulness our abilities is springing up around us—new methods of instruction, new educational publications, and new schools. When I was a schoolboy there was only one public drawing school in Dublin—a city whose University has furnished to the world some of its brightest literary luminaries, whose buildings present to the eye the almost immortal works of Chambers, Gandon, Johnston, and the sculptor Smith, had only one public drawing school in which architectural drawing was supposed to be taught by Richard Baker, landscape by the Brocasses, and figure by Robert L. West. In those days there was some excuse for ignorance in art; but even then, by their own exertions, slightly aided by Smith of the Modelling School, Panorma, Foley, Gallagher, and a few others, came into notice. The means of admission were easy, and open to all; but there was really no instruction—each boy choose what pattern he liked best, and copied it as it best suited him. As to any drawing applicable to tradesmen there was none; drawing to scale was never thought of. It was possible for a pupil to spend years in the architectural school without knowing the names of the different parts of a building, the orders of architecture, or mouldings or their proportions. I am not setting forward these matters for the sake of invidious reflections on those who have long since been gathered to their kindred dust, but to show how difficult it was for an aspirant to attain to a knowledge of drawing—architectural, artistic, or technical—in those days compared with the advantages we have in these.

Dr. Waagen, in his work on the development of Raphael's genius, and its influence upon art, makes the following observation:—"It is a striking remark of Goethe's that for the production of the highest works in art and science a richly gifted genius is not alone sufficient, but that the circumstances of life have a large share in favouring the development of the mental powers. A splendid exotic in a genial climate, warmed by the sun, fanned by gentle breezes, watered by fertilising showers, unfolds its flowery crown in full splendour; whilst, transplanted to a sterile soil and rude clime, and cut by the sharp blasts of a north wind, if it does not altogether lose its noble nature, is shorn of its full beauty, and becomes more or less stunted and withered in its growth. So likewise is that noblest work of creation, the man of genius, as innumerable instances prove—dependent on the favourable or adverse circumstances of his life."

The next class or school of drawing opened

in this city was that established in Jervis-street, and later in the Royal Exchange, by this Mechanics' Institute, in 1840, and now after nearly fourteen years it continues (unassisted by Government aid or patronage), wholly supported by the members, to hold its head proudly and to flourish. [It is to be regretted that this drawing school did not continue in its sphere of usefulness; the Institute was unable to supplement the pupils' fees sufficiently to pay the professor, and he retired from it in 1857, much to the concern of the members. There has been no school for technical instruction suited to the wants of artisans in Dublin since.]

Young people are apt to be very easily deterred from a pursuit if they find any difficulty, real or imaginary, in the way; thus it is that children are prone to copy most objectionable patterns, such, for instance, as small engravings in books—scratching away, fearing something terrible in learning to draw, and finding in their imaginative fancies an obstacle in the term "drawing from nature" difficult to overcome. But where can we better look for objects from which to practise? Does not the domestic cat or dog form a superior model on which to employ the imitative faculty that man possesses, than a copy made by some indifferent copyist? There is an old adage that a story never loses in the carriage; and surely the errors of a drawing do not diminish in the copying!

I will now enter on the motives that should actuate men in cultivating the art of drawing. They are generally mindful of their own interests; but it is a strange fact that, from some cause hitherto unexplained, the artisans, although they will individually acknowledge the importance of the acquirement and its immense usefulness, as a body or collectively seem entirely to forget the great desideratum. I have met in my time a vast number of men connected with the building trades, who have spoken to me on the subject of sending their children and apprentices to learn drawing, and as a matter of course I have always advised it strongly; yet not one out of ten, on an average, have availed themselves of the advantages within their reach. One would think that a man having a son or apprentice would be anxious that they should acquire a knowledge so necessary to the advancement of their business; but an unaccountable apathy seems to pervade them. If it were requisite that a large amount of expense should be incurred, one could understand it; but the outlay is so trifling that it hardly deserves even the name of nominal. Are we not all aware of the respect that the workman is sure to command who can draw? and are we not also well aware of the ludicrous attempts of the ignorant man to exhibit his ideas on paper? How often do we see men obliged to prepare large panels to make full-sized outlines of work, exhibiting at every stage their gross ignorance of the simplest rules of geometry, and their consequent unfitness to rise to anything like eminence in their trades! On the other hand, how pleasing is the sight of the intelligent workman with his scale and pencil, producing unaided by labour and with accuracy the lines without which his subsequent manipulations must be merely "rule-of-thumb" and botchery.

There are some occupations in which this deficiency is more apparent than in others; but I need not in this assembly, where I have the pleasure of seeing representatives of so many of the trades of my native city, recapitulate the names of those in which a knowledge of the art of drawing is necessary, but I may say that it is to the interest of every man, whether employer or employed, to attain to that knowledge. The rules are most simple; wherever he turns his head he has examples before him to copy and educate his sense of vision, as Shakespeare says—

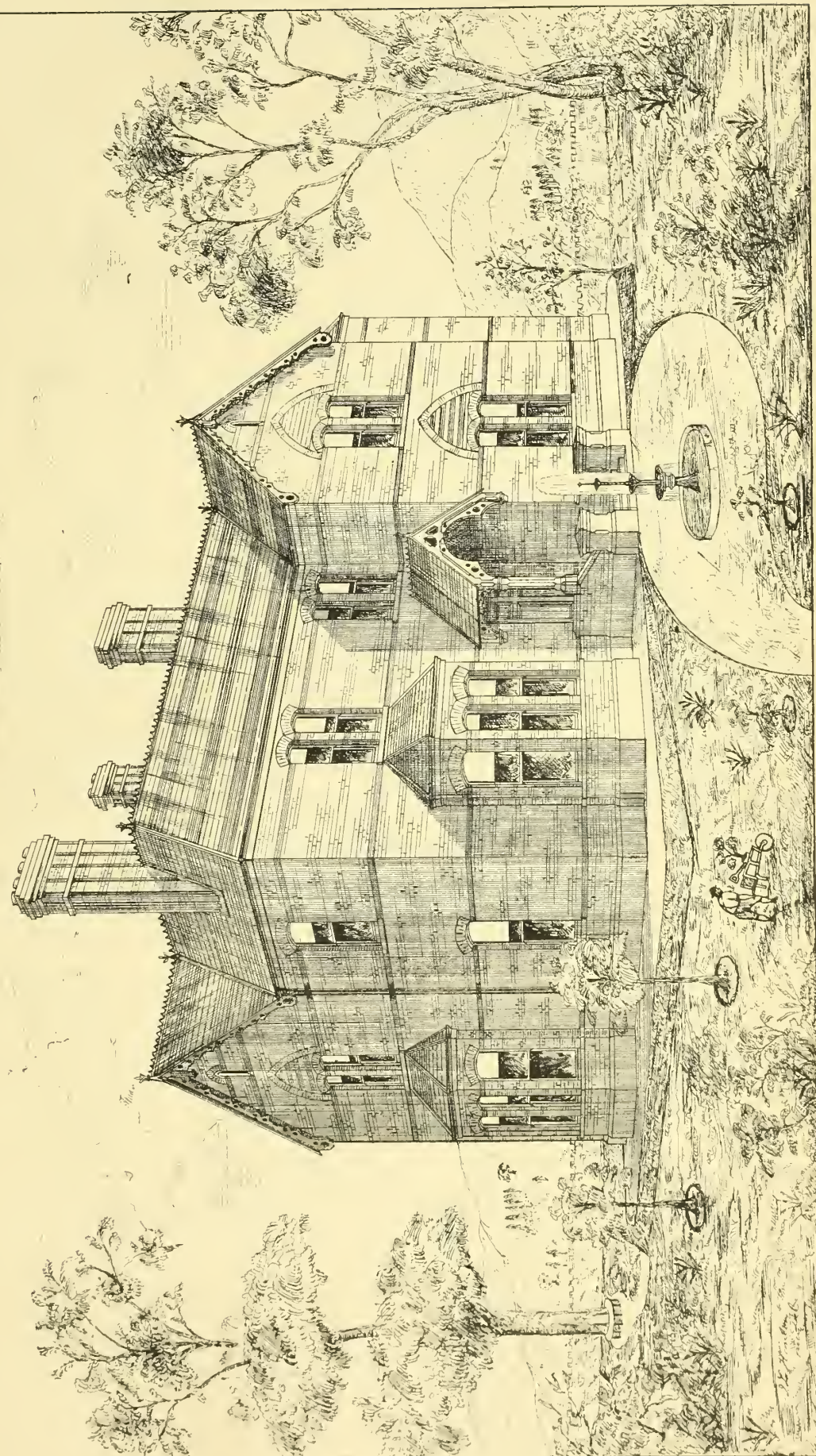
"Sometime we see a cloud that's dragonish, a vapour  
Sometime like a bear or lion, a towered citadel,  
A pendent rock, a forked mountain, a blue promontory  
With trees upon it that nod unto the world, and  
Mock our eyes with air."

Hardly a day can pass without the artisan receiving some assurance of the necessity

\* Substance of a lecture delivered in the Dublin Mechanics' Institute, Dublin, on the 30th October, 1854, by John S. Sloane, C.E., architect, &c.

\* This lecture was delivered twenty-four years ago. Are we not still in our infancy?

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that exists for his knowing how to draw. The true interest of the workman, whether as producer, inventor, or designer, is also the interest of the manufacturer and capitalist, and the permanent prosperity of each and all is involved as it were in a balance of position. A just appreciation of art and the preservation and improvement of the talented works of our predecessors can only be acquired with a sympathetic learning of the rules which guided them in their production.

It may, no doubt, sometimes occur that the skilful manipulator in certain trades can proceed a short way on his worldly career without a knowledge of the rules of drawing, artistic or geometrical.

Now I do not mean to assert that all tradesmen should be artists, although I cannot see why they should not. We are all aware that the indifferent workman that can draw has an immense advantage over the man who cannot; there is no great public or private work in the world in which this is not apparent. In Scotland men of a certain trade in repute there, pay £9 and £10 for a very limited course of instruction; and I am prepared to state that in a drawing-class in this city, whose roll numbers over 60 names, there is not one member of this particular trade, nor the child nor the apprentice of a member,\* although it is a good trade in Dublin, and a man (if blessed with temperance) earns much beyond the average income of the building tradesman, and need not pay as many shillings as it would cost him pounds in either England or Scotland for a full and complete course of instruction, which in his case would embrace ornamental drawing with geometric. Are we always to remain thus blind to our own interests? Will not even the remembrance of "number one" clear away the cloud that would appear to have enwrapped our intellects? Why, as Irishmen, are we so unmindful of our nationality? The love of our beautiful country, our "Erin-go-Bragh"—the wish to see her great amongst the nations—should spur us on, even where mere selfish considerations might fail. The great Scott, in his oft-quoted poem, says:—

"Breathes there a man with soul so dead  
Who never to himself hath said  
This is my own native land?"

And breathes there a man amongst us who would not cultivate that art which would enable him to lend such beauty, precision, and strength, combined with accuracy of design and applicability of purpose, to his performance, that it might take its place amongst the congregated works of the world, defying criticism, proudly Irish? If there is any such who, through mere carelessness or infirmity of purpose, would hesitate to improve the talent his Maker gave him, when by so doing he can assist through his labours in elevating his country, believe me that he is undeserving of the name of Irishman!

(To be continued.)

## PUBLIC WORKS IN IRELAND.†

### THIRD ARTICLE.

CONTINUING our review *re* Landed Property Improvements—Mr. James Jocelyn Poe reports on the County Tipperary and a portion of the County Clare. The inspector states that no new or more important fact connected with the working of the acts is more noticeable in his district than the desire evinced by the owners of property to provide better and more suitable accommodation for their labourers and tenants. We are glad to record this, and trust that the fact will be made more manifest each year in the districts of the other provinces. The inspections for drainage works "in progress" were six, while for farming buildings and labourers' dwellings the inspections were twenty-eight.

The loans have been more numerous, but not to such a large amount as in the previous year, that of the Earl of Donoughmore for a farm residence being the largest. Drainage, building, and other works are reported to be satisfactorily executed; but the inspector speaks of the difficulty of obtaining tradesmen at such an advance of wages as they required. He thinks this state of matters is likely to continue, so few young men being brought up to trades, particularly in country districts.

Mr. Edward Townsend reports upon the counties of Galway, Mayo, Roscommon, and part of Clare. Works to the amount of £13,581 are certified since the report of 1877. Of the above sum £6,858 was for the improvement of the soil, and £6,723 for offices, dwellings, and cottages in connection. Preliminary inspections, the loans for which amounted to £2,791, were also made. Of farm offices built in his district, the inspector reports that the best and most appropriate have been erected by Mr. Fallon, of Netterville, County Galway. "The principal ranges have an internal span of 16 ft. and 17 ft.; they are two storeys high, with fine roomy lofts, and they have a general southerly aspect." This arrangement is preferable, he thinks, to the "new fashionable system of covering in large square spaces on iron columns, which are generally cold, draughty, and untouched by the rays of the sun." In the County Roscommon a Mr. Farmer has built a range of offices two storeys high with Portland cement concrete, the walls of which are 9 in. thick, and the proportion of cement 1 to 6. We are glad to see that concrete is yearly becoming more appreciated and utilised. In past years we have recommended its more extended use, and we still continue to recommend its use on the conditions of using good materials, proper quantities, with a careful attention to the manipulation. Mr. Townsend says:—"In localities where stone is scarce and expensive, concrete can be used with advantage, if care be taken to use good cement; but where stone can be got at a reasonable figure, I prefer rubble masonry over ground, though I use concrete largely in sewerage works and foundations." Good open, main, and thorough drainage is reported to have been successfully executed by Lord Oranmore, at Castlemacgarrett; by Colonel Daly, at Raford; Mr. Hardy, at Dartfield; and Mr. Richardson, at Tyaquin. The latter gentleman has for two years in succession obtained the gold medal of the Royal Agricultural Society for the excellence of his thorough drainage. Mr. Townsend concludes his report thus:—"With regard to the houses in which the small tenants and labourers live, though considerable improvement has been made in some localities, in the remote districts they are yet fearfully bad."

Mr. William Sidney Cox, M. Inst. C.E., &c., reports upon the County Limerick and portions of Clare, Tipperary, and Cork. Since his last yearly statement he has made two preliminary and thirty-four progress inspections, reporting upon thirty-three loans and certifying for an expenditure of £6,608 odd, of which £3,109 odd was expended upon land improvement works. These works consisted of open, main, and thorough drainage, the construction of farm roads, new fences, the removal of old ones, the clearing land of rocks, top-dressing, and planting for shelter, and £3,499 odd for building works. The latter included the erection of farm dwelling-

houses and farm offices, the improvement of existing farm steadings, the building of new and improvement of old dwellings for labourers. The expenditure falls short of that for the year 1876 by £2,635 odd. The difference is attributable very much to the scarcity of skilled labour in the district, which the inspector says "no doubt has been much caused by the demand for artisans, owing to there being some large contracts in course of progress in this county and the adjoining ones." He considers the value of unskilled labour has remained unaltered for the last two years, and so far as he is aware borrowers are thoroughly satisfied with the result of outlays made under the Land Improvement acts.

Mr. Henry Stokes reports upon the County Kerry. In the little kingdom on the south-west angle of Ireland it is indeed satisfactory to find that the expenditure for 1877 was the largest yet reported upon. It amounted to £14,102 odd, composed of building loans for £11,564 odd and land loans for £2,537 odd, nearly equally divided between the borrowers and their tenants. The inspector says only two cases of tenants becoming borrowers have as yet been sanctioned by proprietors, nor will there be any useful increase, he thinks, of such cases until the leaseholder gets the right of memorial on his own security. He thinks it is to be regretted that land improvement works should have been so small as only £2,537 worth, and they are not likely to increase. The above amount would have been £1,000 more if progress bills had been returned in 1876 for the Messrs. Rae's estate at Keel. On the other hand, the consideration appears to be the providing for better farm-houses and offices. The Earl of Kenmare is reported to be making a step in the right direction in providing labourers' dwellings for the crowded population of Killarney, where thirty houses have been built for £1,950; and Sir Edward Denny, at Blenner-ville, has built sixteen of like size and cost. A few others are mentioned, but, although labourers' houses, they are nearly all for tenants of holdings of various sizes. The inspector writes:—"I have endeavoured to encourage the introduction of English roof tiles for agricultural buildings during the early part of last year, when the price of slates went up to 50s. per square for flimsy Bangor slates under  $\frac{1}{2}$  in. thick. I have shown that the Bridgewater tiles, with  $3\frac{1}{2}$  in. lap, can be used, with the saving of timber for wall plates, purlins, ridgeplates, and laths not required, and be got at Cork for 18s. per square, without providing any rafters stronger than are required for good slates, as tiles at  $\frac{1}{2}$  in. thick are lighter than the best Bangor slates, viz., three squares per ton." Thatched houses suggest the following remarks:—"In the present state of agriculture in Munster, where wheaten straw and good hay sell for the same price per ton, a good thatched roof costs more than the best slate roof, it is to be expected that the use of roofing tiles will increase, unless slates fall in price 60 per cent., which is improbable." The inspector, in conclusion, thinks if the Board of Works would, upon investigation, make sure of the advantage of using tiles instead of slates, and add a specification for tiled roofs in their "Instructions to Memorialists," it would be very useful to the public service. We might add that we now find tiles extensively used in the sistor kingdom by builders and the speculating class of

\* The lecturer alluded to the beautiful trade of iron moulders and casters.

† "The Fifty-sixth Report from the Commissioners of Public Works in Ireland." &c. Dublin: Alexander Thom. 1878.

cheap builders engaged in running up houses for the working classes. Tiles throughout the eighteenth century were extensively used for roofing of houses, and the great increased cost of slates is bringing tile roofs again into fashion. A good tiled roof or a series of tiled roofs to small houses and cottages, or even large ones is, we think, a more pleasing and picturesque sight than slates. A good tile is better any day than an inferior slate. We may also add that there exists no reason why tiles should not be manufactured in Ireland. We believe there was a manufactory in Dublin in the last century for tiles and pan tiles, pottery, and other earthenware, which for some years was well patronised, but like other kindred industries was let to die out. There are plenty of suitable clays in the four provinces for brick, pottery, tiles, drain pipes, &c. All that is wanting is a little enterprise, and in a few years Ireland might again become a great exporter of home instead of importer of foreign building materials.

We now come to the last inspections under the Landed Property Improvement, the County Cork being briefly reported upon by Mr. J. T. Cornwall. His inspections were eleven preliminary and twenty-three progress ones, sixteen being progress inspections in building cases. The loans, with the exception of two, were but of small amount. The drainage work is stated to be satisfactorily executed. The loans were chiefly for farm buildings and labourers' dwellings; a large number of the latter have been built, and others are in progress. The inspector, in common with others, says there is a great difficulty in getting labour in some districts, and the high price of labour deters many who wish to improve. Very likely several are indisposed to pay workmen wages higher than what they have been accustomed to pay in past years, but landed proprietors cannot expect to obtain skilled labour, or even unskilled labour, without paying the market price. The cost of living has gone up, and so has house rent in most localities. Even gentlemen farmers are now charging in some districts 2s. and 2s. 6d. for mere mud cabins, which they formerly let at 1s. and 1s. 6d. per week. Artisans are migrated to the cities and towns where labour is in demand, and agricultural labourers are still yearly emigrating to where they expect to receive double and treble their present rate of wages. Skilled and unskilled labour will not be found to remain at home at a starvation standard. If permanent improvements are to be carried out for the benefit of this country, and for the especial good of landed proprietors and others, the artisan and labourer must be paid a higher rate of wages. The purchasing power of a shilling or a pound is not what it was a quarter of a century ago or less. Mr. Cornwall says that he is aware of cases of large extent that it is proposed to carry out this year in the Cork district to provide better accommodation in small towns and villages for the labourers and artisans employed.

A late tour through some of the southern counties convinced us that much yet remains to be done in the way of landed property improvement, and in the providing of farm and labourers' dwellings. Landed proprietors in general could, if they were inclined, create labour by carrying out several desirable improvements on their estates. Works of local and national importance have been for years neglected, and thousands of our artisans and

labourers in towns and villages were but half employed. The force of circumstances obliged hundreds to emigrate and hundreds more to pass over to England and Scotland. Had works been projected at home, those who have left would in numerous cases have preferred to stay in their native place. It could not be expected that there would be always a great surplus of labour at command. Towns and villages have been greatly thinned of late years, and the able-bodied and skilled who have remained at home of the artisan and labouring classes naturally command a better price for their labour.

Of late, building industry through Ireland has been rife, and its several branches at present absorb a large amount of native available labour. The mines, factories, and workshops of England and Scotland also absorb Irish labour and skill to a very considerable extent. We have no doubt that if the facilities afforded for obtaining loans for improvements in various ways from the Irish Board of Works were fully availed of, a remarkable change in the condition of the country would be observable. The bugbear of high wages must be got rid of, for wages will rise and fall according to the demand, and very cheap labour is a nowise desirable exhibition unless it is accompanied with a proportionably cheap and good kind of living, and good quality in articles of supply that appertains to all man's common wants.

The matter contained in the Appendix E *re* National Monuments will be dealt with elsewhere in our columns, and may possibly suggest some remarks as regards their future superintendence and conservation.

#### CORRESPONDENCE.

##### IRISH ARCHITECTS AND THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—With reference to your excellent article in the number of the IRISH BUILDER of 1st instant, will you allow me to correct a little misapprehension of the remarks I took the liberty of making to my hospitable entertainers at the professional dinner at Maple's Hotel on the 20th August. You have imagined that I advocated that the Irish Institute should cease to exist and be entirely absorbed and incorporated in the London Institute. Such is very far from my meaning, nor did I suggest it for a moment. Nothing would more please me than to see the Irish Institute of Architects numerous, energetic, and well supported, like those architectural societies to which you allude, in Manchester, Glasgow, and elsewhere. But with such vigour and with such numbers of members as I should like the Irish Institute possessed of, would come, I can hardly doubt, a larger desire than has hitherto existed among Irish architects to be also members of the central body in London, and for the reason I urged at the dinner: that it has a royal charter, and is the only recognised representative body of our profession as before the public generally, and before the Government and public bodies. That it must be evident to all that the real strength and influence of such a central body, must largely be influenced not only by the actual number of its members, but their being representatives of all our great cities throughout the empire, among which I venture to consider that Dublin should take no subordinate place.

By all means let earnest men in Ireland do their utmost to re-organize, maintain, and increase "The Irish Institute." Let them strive that it shall number among its members representatives from all the chief cities in Ireland. If they will make this effort, none will

more heartily wish them success than I, and I shall have the conviction that if they do succeed, most, if not all, the members of the Irish Institute will feel, as the Glasgow and Manchester men do, that it is their interest, as well as almost their duty, to be members also of the Royal Institute of British Architects in London.

I have the pleasure to subscribe myself,

Yours faithfully,

CHARLES BARRY, Pres. R.I.B.A.

1 Westminster Chambers, London,  
4th September, 1878.

[The letter of the President of the Royal Institute of British Architects is a clear and straightforward one, and speaks for itself. We hope the members of our nominal Irish Institute will take the advice tendered by Mr. Barry, and unite their forces at home for the interests of their profession and country. In respect to other matters touched upon in our article in last issue, we will take an early opportunity of speaking at further length upon them.—ED. I. B.]

#### STAGE FOOTLIGHTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Although I would receive with caution the dogmatism of certain *soi disant* professors as conclusive on any subject (believing, as I do, that their experiments generally have about as much of gospel in them as their so-called scientific addresses, and especially on sound, and its kindred topic, light, with the difficulty of investigating which I am so practically acquainted that I consider their *ipse dixit* on either worthless), I am much impressed with the idea of your correspondent "M. M.," which is worthy of thought, being ingenious and calculated to call forth much that is interesting connected with a moot point in the architecture of theatres.

In 1851 I was engaged by some gentlemen who intended forming a company (to supply plans, &c.) for the conversion of the great Free Trade Hall of Manchester into a place of amusement, a portion of which was to be a theatre. About the same time I was professionally consulted by the late Mr. Joseph as to the re-building of the Queen's Theatre in Dublin, which I proposed to construct principally of iron, and, as far as possible, fireproof. I was led in this way to give considerable attention to the subject of footlights—not in respect to either the transmission or interruption of sound by upward or downward vertical currents, but to their effect on the lighting of the ("picture") stage, and the ventilation. From reasons which I need not particularise, I had an opportunity of consulting the highest actors of the day, male and female, and found that there would be the greatest opposition to any infringement on the established position of the footlights, excepting so far as rendering them less dangerous from liability to contact with the dresses. Any interference with sound from vertical currents was never thought of; and although I would wish much to see the very difficult experiment tried, to test whether or no there are vertical currents, my own belief is that there are not. The great difference in temperature that exists between the stage and auditorium causes so many horizontal currents at each change of scene, that a vertical current of any continuance or consequence could scarcely live, and, if variable, would (always supposing they interrupt sound) render the voices of the performers strangely intermittent. However, as I before said, the idea is ingenious, and although not "protoplasmic," some one may be found to evolve it.

JOHN S. SLOANE, C.E., Architect.

Clontarf, September, 1878.

#### WATER SUPPLY TO NORTH UNION WORKHOUSE.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—A proposal to supply the Workhouse of the North Dublin Union with Vraty water, which would have involved the rate-payers in a first outlay

of about £500 for laying on the water, and an annual rent of £600 per annum (which might possibly be increased to £1,000), has been rejected by the Board of Guardians, as they did not consider they would be justified in putting the ratepayers to such expense, the present supply of water to the workhouse being of very good quality, and supplied almost gratis from a high level of the Royal Canal.

The *Freeman's Journal*, commenting on that decision of the Board of Guardians, makes the following absurd statement:—"The Guardians do not seem to consider at all that if they pay to the Corporation (for the water), they pay in reduction of taxes on the citizens." Now, no matter how agreeable the city ratepayers might be to view the matter in this light, how could the ratepayers of the electoral divisions be expected to have any interest in the amount of money the Corporation would obtain to increase the salaries of their already over-paid pets? Again—the use of Vartry water in such establishments as the Dublin Workhouses would entail a still further expense on the ratepayers, urban and suburban, which no argument, however plausible, could mitigate. Amongst the other qualities of the Vartry water, its destructive action on iron and tinned-iron vessels is so very powerful, that tin-work, &c., able to resist for five years the action of canal water, would not last much longer than one year under that of Vartry, and the cost of the extra tinwork so required would not be less than £400 per annum.

The comments in the *Freeman* are thus wound up:—"Ultimately the Guardians came to the conclusion that at any rate the canal water *was good enough for the paupers*. The chairman was afraid the Vartry would soften their bones. Apparently it has no effect of this kind on Poor Law Guardians' hearts. We would like to put them back, one and all, on canal water—pure—for twelve months, and see what effect that would have on them."

How much longer will public humbug be tolerated in Dublin? For nearly forty years the inmates of the Workhouse were permitted to enjoy the liquid contained in the filthy "Turf Harbour"—a mixture of bilge water, essence of putrid carcases of cats and dogs, filth unmentionable, and rotten vegetable matter. During that period no corporate philanthropic writer used his pen in protesting against the continuance of such a water supply!!! The water at present used in the North Union Workhouse is pure and clean, and chemical analysis has proved it to be wholesome. Many of the Guardians do not use Vartry, but use canal or other waters, and the above mean, untrue, spiteful effusion, must be looked upon as the result of disappointed corporation cupidity, for corporate nature should be "riiled" at being thus baffled in obtaining £2,000 per annum, it being at present badly wanted.

The ratepayers of the North Dublin Union have reason to feel grateful to the chairman, to Mr. Burke, and the other members of the Board of Guardians who successfully resisted this insidious attempt to increase the funds of the Corporation by the wanton increase of the poor law rating.

J. KIRBY.

#### "A QUERY FOR HAND-RAILERS."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Under the above heading in your last issue, I read with interest the theory put forward by "A Carpenter," who contends that the wreath or "twist" of the continued hand-rail that winds round the cylinder, should twist in every portion of its section. I have, during my practice, put up several stairs, and set-out and worked their hand-rails by the older and by the more modern methods now in practice, and I must acknowledge that I am not at all satisfied that the twisted portion of the hand-rail, as now worked, is geometrically correct. Where the cylinder is small the inside curve of the twist is not at all regular or pleasing to the eye, and a great difference will be observed between the form of the outer and inner curves of the twist. The sides of the straight parts of the rail are designed to be perpendicular to the plan and an endeavour is made in practice as far as possible, to make the sides of the curve or twist perpendicular also. If, however, the "twist" as a whole should be a regular wreath, and really twist in every portion of its section (as I believe it should in theory), then neither the inside, outside, top, nor bottom, could show the smallest surface that was not "in twist," and neither the outside nor inside of the wreath or twist could present more surface

perpendicular to the plan than a twisted arris, moulding, or points thereon, in contradistinction to the sides of the straight portion of the rail, which sides, at all times are, or supposed to be, perpendicular to the plan. As your correspondent suggests, let a wreath or twist be got out in octagon form to join portions of the straight rail above and below the cylinder, and let the straight rail be also octagon; this would afford an illustration which would be understood in a moment.

As an experiment, I would suggest to a young staircase hand the getting out of three or four small model "twists," with portions of the straight rail attached. Let the first model be exactly square in section, the second octagon, the third the ordinarily moulded pattern, and the fourth a regular circle. As some of the above models would be convertible one into another, perhaps a lesser number than what I have suggested would do for experiments. I am certain that if the worker got out and shaped an exactly square section of the twist, and when this was completed to his satisfaction he converted it into an octagon, he would at once find out that the wreath curved in every portion of its section, and that all the arrises and squares, somewhat helix-like, followed each other, each a regular twist.

Your correspondent, sir, has started an ingenious theory worthy of fuller analysis than I can give to it at present. I hold that he is grammatically correct in his theory, though the exigencies of modern practice lead men to adopt what is handiest, in preference to what is constructionally accurate and artistic.

A STAIRCASE HAND.

#### OUR NEW NORTHERN TOWNSHIP.

THE first meeting of the Commissioners of the new township of the combined districts of Drumcondra, Clonliffe, and Glasnevin was held on the 2nd inst., in the Petty Sessions Court House of Drumcondra. The bill for the formation of the township was passed during the late session, and the readers of the *IRISH BUILDER* are aware that we have for a long time earnestly advocated the creation of a new township for the northern suburbs of Dublin. Not only have we advocated the formation of the new township, but we have for several years back been continually pointing out the wants of the northern suburbs, and drawing attention to its past history and present wants. We never doubted for a moment but that the Drumcondra and Glasnevin districts would once more rise to that degree of favour they experienced of old as healthy resorts, before the tide of fashion set in towards the southern quarters of the metropolis. Building speculation is rife in the northern suburbs, and we hope it will continue so, and that houses of a better character will continue to be erected than some of those recently raised.

The following members, interested in the project of the district, were present at the first meeting of the commissioners:—Colonel Lindsay, J.P.; Ignatius Kennedy, T.C.; J. F. Lombard, J.P.; Maurice Butterly, Patrick Fitzpatrick, Richard M'Mullen, Stephen Eugene McCarthy, William Vincent Barre, James Martin, Peter Leech, and William J. Doherty. Mr. Clay (Casey and Clay) was also present. Mr. Lombard was unanimously elected to the office of chairman, and Mr. Frederick W. Clay was appointed secretary, *pro tem*. Mr. P. F. Leonard, C.E., was appointed as surveyor to the new township, on terms to be settled by the finance committee. We consider the selection is a good one, Mr. Leonard having already drawn up a useful report on the drainage of the district. Messrs. Casey and Clay are appointed solicitors to the new body. The road, water, and lighting committees are composed of the following members:—Messrs. Butterly, Doherty, Kennedy, M'Mahon, McCarthy, and Barre. It was moved and carried that the following commissioners:—Messrs. Butterly, Fitzpatrick, M'Mahon, Kennedy, McCarthy,

and Doherty, be appointed a finance committee, and that they be requested to take the necessary steps to obtain a loan of £7,000 for the purposes of the township, and that the solicitors be instructed to apply for same, and to report to the committee the terms upon which such loan can be had. Mr. R. J. Ennis, town clerk of Kingstown, is appointed to superintend the arrangements of the new township, the preparation of the books of account, and its general working for a period of three months, as it was necessary to have some one of experience to give the new commissioners a fair start. It was also ordered that the solicitors be directed to prepare as soon as possible a set of bye-laws for the regulation of the township, and submit same for approval of the board. At the adjourned meeting of the commissioners the new bye-laws were read, adopted, and ordered to be printed, and it was resolved that the finance committee shall undertake the duties connected with sanitation and sewers. We would suggest that a separate committee should be appointed for these duties hereafter. In reference to the lighting of the township, Mr. Leonard, the engineer, is ordered to report upon the number of lamps needed, and the best positions for them in order to ensure an efficient lighting of the entire district. The commissioners have resolved to strike no rate till next year except for lighting and watering the township.

As soon as the new board get into working order, one of the first important matters that the commissioners will have to give their serious attention to is that of the drainage of the district. This cannot, or must not, be neglected. The state at present of portions of the River Tolka calls for inquiry and inspection, as also that relating to building irregularities in the district, and foundations and house drainage in connection. There is plenty of work before the commissioners needing prompt execution, and we trust they will prove themselves worthy of their position. We will wish them every success in their efforts, if wisely directed, and we can see no difficulties in their path, but such as can be overcome by energy and determination. Having said so much by way of preliminary, we will conclude by wishing success to the new township.

#### THE ARCHITECT-SLATER.

At the recent meeting of the Tuam Diocesan Synod, held in the Masonic Hall, the Rev. R. Goodison called attention to the subject of the management of glebes, and said that as £2,500 a-year was spent on the glebes, the matter concerned them all very much. There was great dissatisfaction felt with the action of the Glebes Committee, and he had personal experience of the manner in which the work of repairing glebes was carried out in this diocese. Arrangements were entered into for the erection of a porch at the hall-door of his glebe-house, but a common slater came down and made out the plan, and a porch was built at the back of the house and without a window. He went before the committee in Dublin, and pointed out what had taken place, and that what had been done should not have cost £4, while £14 was allowed for it. He was actually laughed out of the room, and told that his wife had directed the porch to be built at the back door. He asked the committee whether they had contracted with his wife. He inquired afterwards, and found that the money had been paid, and that there was no redress.

RATHFARNHAM.—The extension of the tram line from Tereure to Rathfarnham, now about to be commenced, will more fully open this historic and healthful district to visitors. The old village contains many unsightly and dilapidated cabins, and several more have disappeared of late years. The Roman Catholic chapel, lately erected at the corner of the demesne of Mr. Hodgins, who freely presented the site, exhibits good design and workmanship. We may expect shortly that building industry will be rife in the neighbourhood.

## OUR SEA AND HARBOUR MARKS.\*

(Continued from page 253.)

From the great interest that attaches to the Fastness Lighthouse, I cannot do better than give it priority in my descriptions of our sea marks, and in doing so will acknowledge much assistance from a paper on the subject by Mr. John S. Sloane, which he had printed for private circulation some years ago; but since then many important additions have been made to the building or buildings, and much labour has been expended on the situation, under Mr. Sloane's personal superintendence.

This large and prominently-exposed rock is  $6\frac{1}{2}$  miles south of the Goat Island, and 4 miles S.W. by W. of Cape Clear, in latitude  $51^{\circ} 23' 18''$  N., and longitude  $9^{\circ} 36' 25''$  W. Although locally known as "The Fastnet," and so shown on many maps and charts, the Ordnance Survey has it expressed as "The Fastness," and from the great care bestowed by the heads of that department to arrive at correct etymologies, it is no doubt the true nomenclature, it being a rocky fastness.

From certain peculiarities of light, especially when the sun is in its vernal equinox, the Fastness Rock, seen from the shores of Cape Clear, Crookhaven, or the adjacent islands or headlands, especially from the Mizen Head, Lisacaha, or Mount Gabriel, presents a peculiarly spectral appearance, easily mistaken by strangers for a large ship under sail; and this, doubtless, gave rise to a tradition long kept alive on that southern coast, that every May morning the rock set sail, and after a cruise around the Dursley Island, and a visit to its relations—the Bull, Cow, and Calf,—settled down in its position, and behaved as an orderly rock should, until the sweet May morning, again shining on its bare and rugged head, awoke it to the enjoyment of its yearly sail.

It was long supposed to have the curious property of being "just nine miles from every place," but this poetic idea was dispelled by the matter-of-fact Ordnance Surveyors, although there are not wanting many who will tell you that such *was* the case, but that the last time the rock returned from the Dursley, it made some mistake in resuming its old position! This may have been due to the removal of the Coast Guard from Garinish, or stupidity caused by regrets for the good old times, or a foreboding that the Commissioners of Irish Lights were about to break the spell, that the last cruise was taken, and for evermore a beacon should blaze from its summit, alike a warning to the weary mariner and a welcome to the hospitable shores of Ireland.

According to another tradition of the people of West Cork, the Fastness Rock was picked out of Mount Gabriel, and a lake or pond is shewn there as being the cavity caused by its abduction; this pond is (as a matter of course) unfathomable, although I have heard Mr. Sloane say that the bottom could be reached by a 10-foot rod; whilst others, less astute, assert that matters thrown into the pond will afterwards be found floating about the Fastness Rock, thus clearly proving that there is some mysterious passage or communication between the rock and its old abode. Again, like the rocks of Cashel and Dunamase, it is said that the singular gap of Mount Gabriel was caused by his Satanic majesty biting a piece out of the mountain, and not finding it palatable, dropping it where in after ages it has been known as the Fastness Rock, but as in those instances the geological structure must have changed in the transit.

Apart from these traditions, the rock possesses an interest from its peculiar appearance, isolated position, and being the last of the old country seen by emigrants seeking other shores; this has gained for it the name of "The Tear-drop of Ireland" (Ceon Ceitinn) the sight of it being sufficient to call forth the tears of those who

siderable excitement at all times, but there are few years that some days may not be had when even women can step ashore, and parties have dined on it picnic fashion—indeed it is one of the feats that the ladies of West Carberry delight in being able to say they have accomplished.

Like the generality of the islands and remote headlands of Ireland, the Fastness has its spectre, which, it is said, may be occasionally seen like a vapoury cloud standing on its beetling cliff, foreboding storm. The story of the Gray Man of Benmore, whose fearful path on the eastern side of Fairhead, in the County Antrim, is familiar to most travellers in the North of Ireland, but I have never been so fortunate as to meet any person who has seen the apparition. The spectre of the Fastness appears on foggy nights during full moon over the Tailor Rock, and probably the origin of the superstition, is caused, as in this case, by the peculiarity of the vapour from the spray at that point.

Of the "Dhuna Feadhreach," Fata morgana, mirage, or whatever other term it may please our readers to give it, I had a beautiful example one April morning, when, standing on Notter's Tower at Crookhaven, I saw a large tract of land stretching away from Cape Clear, and extending west and south of the Fastness Rock, which appeared as it were in the centre of a large bay, so complete was the illusion, that for an instant I forgot in what direction I was looking; the line of coast was perfectly defined, and on the shore was an old square tower or keep. Thinking it was the reflection of some portion of the lands along the coast, I turned in that direction, and endeavoured to discover some outline of which the illusory land might be a counterpart, but I failed in my search, and, on again looking towards the rock, the vision was fading rapidly from view. These phenomena are not unusual on the south and west coasts, and in Brewer's "Beauties of Ireland," there is a description of similar exhibitions seen from the coast of Waterford at various times. On 13th of August, 1876, I had again an opportunity of seeing the mirage from Aranmore Island. The Marquis and Marchioness of Hamilton, Mr. Montague Corry, and a large party, were in the neighbourhood in the Duke of Westminster's yacht, but it had vanished before my messenger could reach them. In the late T. Crofton Croker's translation of the Tour of M. de la Boulez le Gouz in Ireland in 1644, the matter is very largely dealt with, and a lengthened and curious account given of Hy Brasil or the Island of O'Brazile, which was so often and so plainly seen, that (it is said) a Mr. Leslie took out a patent for the possession of it, whenever the enchantment which held it invisible should be broken!

Until 1854, the only lighthouse on the south-west coast of Ireland was on Clear Island, and it being at a considerable elevation, was frequently obscured by fogs and the mists that gathered on the Cape, and countless wrecks were the consequence. Early in the year 1848, the Corporation for Preserving and Improving the Port of Dublin decided on placing a light on the Fastness Rock, and accordingly the present tower was designed by their engineer, George Halpin, Esq., the requisite working drawings being made by Mr. F. Louch and Mr. Sloane, draftsmen in the engineer's office. The design consisted in a tower composed of a casing of cast-iron plates with flanges and stiffening ribs, the lower storey of which was partially filled in with masonry, leaving space for a coal vault, and the other storeys lined with brick-work; the floors consist of cast-iron plates laid on radially disposed girders, which unite and rest on a central hollow column, and bind the tower at each storey. Of these there are five, 12 ft. high, measured from floor to floor, the internal diameter of the tower being 12 ft. also, the height from base to gallery is 63 ft. 9 in., above which rises a well proportioned lantern uniting apparent lightness with the requisite strength. It is hardly necessary to observe that the management of the different portions of this

tower to meet the shocks of wind and heavy sea, was an effort of no ordinary engineering skill, and although differences of opinion may exist as to the fitness of such structures for lighthouse purposes, there is, perhaps, no other method by which a lighthouse could be placed in such a situation so speedily or economically.

The first landing by workmen of the Corporation was on or about the 30th January, 1848; and Mr. M. Proud, the resident engineer selected by Mr. Halpin for this important work, proceeded to the rock on the 25th of March following; the *Mersey* steam boat having been chartered to convey materials, and remain there until sheds were erected for the workmen. Messrs. John and Robert Mallet, iron-founders and plumbers, of Ryder's-row, Dublin, were declared the contractors for the cast-iron plates, and the first portion was delivered and shipped on board the *Albion* steamer in August. At this time Mr. Halpin remained on the rock until the middle of September, and superintended the fixing of the lower tiers of plates. The last instalment was cast and delivered at the North Wall stores in December, at which time the works at Crookhaven were closed, and all engaged returned to Dublin, excepting Mr. Proud, Mr. Cowan, the pay clerk, and a blacksmith, who remained. All was safely landed on the rock by June, 1849, when the *Mersey* steamer was again chartered and remained at the rock until the end of July. The works went bravely on, and although many a fearful day and night were spent on the rock there were no lives lost, nor, I believe, any serious accident. Mr. Proud, who had gained experience in lighthouse building through a long life spent in the employment of the Corporation, saw the tower rising, day by day, nearing to completion; but he was an old man, and four years of constant labour of mind and body was too much for him, he left the works of the Fastness in April, 1852, and returned to Dublin. He was succeeded by a Mr. Connolly, a foreman carpenter, under whose superintendence (with frequent visits of the engineer) the tower was completed, and who remained (with the exception of some few months in 1853, that he was on duty in Dublin) until January, 1854, on the first night of which the lamp of the Fastness Lantern, lighted by Mr. Thuillier, foreman of lightroom repairs, in presence of Mr. Halpin, first threw its bright flashes over the waters of the great Atlantic. The apparatus is cata-dioptric of the first order of Fresnel, revolving and shewing its brightest light or flash once in every minute. The focal point is 148 ft. over the sea, and it can be seen eighteen miles in clear weather. There is also a cast-iron dwelling for the keepers on the rock, which was contracted for by Mr. William Turner, of the Oxmantown Foundry, Dublin, and erected by the workmen of the Corporation. It consists of two rooms, is lined with brick-work, and is a comparatively comfortable habitation. The dwellings for the lightkeepers, when off the rock, at Crookhaven, were erected in 1863 by the contractor, Mr. T. H. Limrick, of Union Hall, County Cork, after the designs of Mr. Halpin, and under the superintendence of Mr. Sloane—the site chosen has turned out to have been very badly selected, and was adopted wholly against the latter gentleman's remonstrance.

As I have before observed, the height of the focal plane of the Fastness Light is 148 ft. over high water of ordinary tides, and this, theoretically speaking, gives a power of visibility of over 18 miles, supposing the atmosphere to be clear and unencumbered by mists or fog; this state of the weather is not often had on the Irish coasts, but I have seen the Fastness Light from a distance of about 18 miles on a clear and frosty morning; and even a landsman could not observe its magnificent column of flame growing out of the surrounding darkness, without feeling deeply

\* This gentleman was uncle and father-in-law to the present respected secretary of the Port and Docks Board of Dublin.

Still look back to that dear Isle they are leaving."

The difficulty of landing on it causes con-

\* Written for the IRISH BUILDER by an old Lighthouse Engineer.

interested. The appearance is different from the ordinary revolving light, as it is what is called a fixed and flashing light, the flash being the result of the foci of the lenses forming the cata-dioptric apparatus becoming periodically coincident consecutively in every degree of azimuth. This magnificent apparatus was supplied by the firm of Messrs. W. Wilkins and Co., of Long Acre, the lenses being of St. Gobain glass, ground at the works of M. Letourneau (now MM. Sautter, Lemonier, et Cie), in Paris, and is unrivalled of its class. The effect has also been produced since the apparatus was ordered from the makers, by an arrangement of annular lenses and prisms, invented by Mr. Thomas Stevenson, and termed *Holophotal*, from two Greek words signifying *entire* and *light*; the first of these was exhibited in 1851, in the Great Exhibition in London, and since then several of them have been made for the different lighthouse authorities. The Commissioners of Irish Lights have had them erected, by Mr. Sloane's advice, at North Aran, Rock-a-bill, Inisbtrahull, Calf Rock, Tearaght, and Black Rock (Black Sod Bay) lighthouses. The effect of the arrangement is grand, the whole zenith appearing lighted for an instant by the flash, which, when at its brightest, appears like a column of flame 10 ft. in height. The Fastness Light could have been exhibited early in 1853, but it was thought advisable to allow a winter to pass, in order to mark the effects of the storms on the lantern.

Although, as I have said, iron dwellings were erected on the rock, to the great comfort of the lamplighters, the sub or assistant keeper's houses were of wood, and, with the coal and water-houses, had become decayed; and when the Earl of Meath and other commissioners visited the station in 1865, the necessity for new houses appeared so great that a telegram was despatched from Valentia, and Mr. Sloane at once made arrangements to have the want supplied. By travelling all the night of the 22nd, and Sunday, the 23rd of July, he was enabled to commence operations for preparing foundations, &c., on the rock on the 14th of August, having in the meantime visited Dublin, prepared drawings, and, having the castings commenced by Messrs. Courtney and Stephens, from his designs, these castings and other materials were forwarded to him without delay in instalments by the commissioners' steam yacht the *Princess Alexandra*.

I may here mention *en passant* that Mr. Sloane being resident on the rock, advantage was taken of the circumstance to have a critical examination made of six of the lenticular apparatus of the south coast, which had previously been adjusted by an English firm. Mr. Peter Rigby, a gentleman of great practical knowledge of optical instruments, was employed to assist in the operation, and the lenses of the Fastness, Kinsale, Yonghal, Ballycotton, Minehead, and Dunganvar were examined and reported on.

The iron houses being completed early in 1866, and each portion having means of intercommunication, the lightkeepers have had since then facilities for procuring coals and water in stormy weather that they before were strangers to.

The commissioners next determined on filling up the greater of the south-western chasms, which they had for some time in contemplation, and casing the tower to a height of 24 ft. with metal plates, in accordance with a design of C. P. Cotton, Esq., M.R.I.A., &c., at that time consulting engineer to the Irish Lights Board. For the filling of the chasm a large quantity of Dalkey granite was procured from Mr. Carroll, of Kingstown, and the cast iron plates for the casing of the tower were from the foundry of the Messrs. J. Edmundson and Co., of Dublin. The mixture for the cast iron was peculiar, the result being perhaps the hardest metal ever made, with no practical advantage, whatever there might be in theory. Mr. Cotton's very ingenious proposition to fill between the casing plates with baryta (a very ponderous mineral, to be had with great facility in the neighbouring mainland), and thus getting greater specific

gravity, was not entertained by the authorities, for some reason best known to themselves and their *amateur* brethren.\*

The works were nearly completed in 1868; but as the engineer to the Trinity House of Deptford, Strond, discovered that the old cavetto or balcony projected 4 in. all round more than in his opinion it ought, and caring nothing for design or architectural principles, to please him and the Harbour Department of the Board of Trade it should be removed, and a new balcony substituted at immense expense. All being finished in 1869, and the Irish Board having failed to get the sanction of the Board of Trade for filling the other S.W. chasm (which will some day cause an immense disruption and probable loss of life, the secretary of the Harbour Department presuming to know more about the necessity than the engineer who had lived on the rock), Mr. Sloane left the result of much of his anxious labours, and, with Mr. James Tocker, the commissioners' foreman, who so ably assisted him all through, repaired to other scenes of his badly requited and thankless career.

#### ACTION OF VARTRY WATER ON BOILERS.

In the Chemical Science Section, British Association, Professor C. R. C. Tiehborne read a paper on the above subject. The water from the River Vartry, from which the supply of Dublin was had, had been repeatedly analysed; therefore he would not trouble the section with a detail of its composition. It would be sufficient for his purpose to remind them of its general composition, which might be stated to consist of organic matter of a peaty nature, 1.6 to 2 grains per gallon; mineral matter, 2½ grains, chiefly consisting of chlorides of the alkalies and the alkaline earths in equal proportions. The hardness was nearly all permanent, as there was but a trace of carbonates present. The point he wished to draw attention to, however, was the presence of nitrates and nitrites. The first was always present, the latter occasionally in the summer and autumn months. It was present when last tried on the 3rd of August. He had never seen any published analysis which mentioned the existence of these acidulous radicals. As his object was to determine the condition of the nitrogen salts, and as heat seemed to reduce nitrates when occurring in this water, he had recourse to evaporation by the aid of a vacuum and sulphuric acid, the test he used being the brucia test—an extremely delicate one if properly applied. For his nitrites he used a thin starch solution, made with a little dilute glycerine to keep it, and a solution of tartaric acid preserved by a little salicylic acid, the iodide of potassium being carefully purified from iodate. The solutions kept very well, and were reliable. The iodide should be dissolved as required. The Vartry water did not give indications with the tests, as a rule, without concentrating it. The results of his experiments on the 3rd of August were—(1) Water evaporated to ¼ at 100 deg. c. gave a very striking indication of nitrites, besides nitrates; (2) evaporated in a vacuum gave no indication; (3) evaporated to ¼ gave an indication of nitrites and nitrates. In January last the Vartry gave no indication of nitrites, but contained, as usual, nitrates, and gave an indication on evaporating to ¼. They saw by these observations that evaporation tended to reduce the nitrates; also that from fermentative action changes occurred at certain periods of the year, which resulted in the reduction of nitrates to nitrites. They saw also that these nitrates and nitrites were present in very minute quantities. He had never found 0.1 of a grain per gallon, said to be present in Loch Katrine water, the highest amount he had ever found being 0.06—determined by the aluminium process. But

\* Amateur architects and engineers frequently do mischief on public boards through their interference, which should at all times be discouraged. Officers of the Royal Navy are particularly prone to this sort of thing. The only professionals they cannot interfere with are the law advisers.

still when these salts were rapidly concentrated—as they were in the feeding of high-pressure steam boilers—the nitrogen salts became very serious items of corrosion, owing to the ease with which the acidulous radicals were dissociated at high temperature. He exhibited a boiler-plate which was not eaten away by the corrosive action of water, but the corrosion was done by the steam itself of the Vartry water. He also exhibited glass corrosion produced by the same means. That the corrosion of the boiler-plate mainly proceeded from the nitrogeous molecules, he thought there could be little doubt. But, the quantity of these acidulous radicals being very small, any of the alkaline preservatives would remedy that corrosive action. If, however, neglected, it would almost be certain to lead to mischief, and therefore was an imminent source of danger.

Mr. D. C. Glen, Glasgow, as a practical engineer, said that a coating of lime acted as a preservative of boilers, and prevented their being eaten away.

#### ARCHÆOLOGICAL MEETINGS.

In continuation of our brief notice of the first three days' proceedings of the British Archæological Association at Wisbech, we now add that on Thursday, the 21st ult., the members left Wisbech in large numbers by special train to King's Lynn, where they were met by one of their vice-presidents, Sir Lewis Jarvis. The company were conducted by him through the Guildhall, where the maces and other corporate insignia were exhibited and described by Messrs. Bloxam, Lambert, and others. Mr. De Gray Birch gave an interesting account of the oldest of the deeds. The fine cruciform church of St. Margaret was next visited, accounted the largest parish church in England, exhibiting Norman and Early English work. Several features and objects here were described by Mr. Loftns Brock and Mr. Bloxam. The visitors afterwards proceeded to the sites of some old fortifications, and viewed Red Mount, a singular little octagonal chapel of red brick standing upon it. Mr. Brock described its peculiarities, and said it was known to be a guild chapel, and dated from the close of the fifteenth century. After visiting the Custom House, the party proceeded to the remains of Grey Friars' Church, consisting of a Perpendicular tower, hexagonal in form, and standing on four arches of the Decorated period. The Rev. Mr. Slight here gave some account of the old buildings. The chapel of St. Nicholas—a fifteenth-century building—was next inspected, after which the party partook of luncheon at the Globe Hotel. Here they were joined by visitors from Hunstanton and other places, and set off in carriages to Castle Rising, which was fully described by Mr. Brock. Subsequently the party drove to Sandringham, where, by permission of the Prince of Wales, the house and grounds were inspected. An evening meeting was held in the Museum at Wisbech, and the following papers were read:—"On Hereward the Saxon," by Mr. S. H. Miller; "On some Reminiscences of an Old Scholar of King's Lynn Grammar School," by Dr. Phene.

On Friday visits were paid to the ancient abbeys of Thorney and Crowland. The chief features of Thorney Church were the subject of a paper by Mr. C. Lynam. From Thorney the visitors proceeded to Crowland, where the ruined abbey formed the subject of a discourse by the Rev. Canon Moore, who gave some account of the restoration carried on there by the late Sir Gilbert Scott. The singular triangular bridge at Crowland attracted attention. In the evening the visitors proceeded to Spalding, and here Canon Moore described the abbey church. Wisbech was returned to in time for the evening meeting, at which Mr. E. Ferrey and Mr. Compton read papers on "Symbolism in the Early and Mediæval Art," and on the "History of Great Yarmouth."

On Saturday visits were paid to the Roman Station at Caistor, near Peterborough, where

Mr. T. Morgan read a paper. The Castle at Chesterton and the town of Stamford, the old Bede-house, and other antiquities of the town, afforded considerable interest. The Mayor and Corporation of Stamford entertained the party at a luncheon. In the evening a *conversazione* was held at Wisbech, Mr. Birch exhibiting and explaining an interesting collection of MSS.

On Monday the visitors proceeded to Cambridge, inspecting the civic regalia in the Town Hall, and several other objects. At King's College the visitors were received by one of the fellows, the Rev. Mr. Churton, who showed them over the chapel. After luncheon the visitors went to the Fitzwilliam Museum, the contents of which were explained by Professor Colvin. A brief visit was next made to Peter House and the church of St. Mary the Less, and, later on, other visits to Queen's and Corpus Christi colleges and libraries.

The proceedings of the association were brought to an end on Tuesday, when visits were paid to Clare College, Trinity Hall, and Caius College, and other collegiate buildings. After viewing a number of structures and their objects, visits were made later in the day to Castle Hill, the old Fosse of Camboritum, and the Roman Wall close by. The archæologists next visited the so-called School of Pythagoras and Merton Hall, and wound up by driving to Jesus College, where they inspected the new chapel and its other interesting features.

We would like to have given *in extenso* some of the interesting papers read, as some were excellent, and kindred to our advocacy; but want of space compels us to omit them, and to furnish the brief outline we have given of the proceedings of the association.

### THE FUTURE OF PUBLIC HEALTH.

At the International Congress on Hygiene, Paris, Mr. Edwin Chadwick read an able paper on the "Administrative Changes needed in Central and Local Organisations for the Improvement of the Public Health." In this excellent paper he set forth the need of the appointment of a Minister of Public Health as a member of the cabinet of every government, and he defined the principles of central action for the direction of local effort. In the paper he furnishes statements as to the cost of disease, and the importance of the functions of a health minister as compared with those of a war minister and other members of administrations. We have not space to give the paper *in extenso*, but the following are the conclusions:—

In counteraction, to some extent, of the deplorably ignorant relapses in principle, in legislation, and in administration which we have sustained, there have been steady advances in public opinion, by which, in time, those relapses will be retrieved. Voluntary associations are rising in different parts of the kingdom to investigate and promote the spread of knowledge on the subject. I have the honour to be appointed as a delegate to this Congress by three of them. Able champions in the press and in special publications in support of sanitary measures are multiplying. The declaration of our Premier that "the health of the people is the first study of a statesman," will need outside support for its advancement, and to enable members of the Legislature to see their way in it. The most important advance, in my view, has been made by the development of clear and distinct norms, demonstrative of the extent of the power of sanitation. The most direct recent practical legislative measure in sanitation has been one to encourage the construction of improved dwellings for the wage classes, a measure which is very good as far as it goes, but it has only gone, and is only likely to go, to a percentage of the conditions requiring removal. One quarter of a year's deaths preventable by improved water-supplies and the complete drainage of houses and cleansing, would, I believe, fill all the model dwellings built in London during a quarter of a century. They are mostly improvable in economy and efficiency of construction; nevertheless they will form useful examples of improvement, which may be brought forward for examination by the great prize offered by the King of Belgium for the best instance of the greatest reduction of a death-rate by them at the lowest cost.

Of the great extent of the evils to be dealt with, and of the administrative agency required to deal with them, and of the economy of an efficient agency, we have the task before us of convincing others as well as ourselves. I beg to submit to the consideration of the Congress, as *vœux*, founded upon the separate experiences of Great Britain:—

1. That the magnitude of the preventible evils to be dealt with for the protection of the health of populations requires the organisation of a distinct central department of the public health, with the special attributions hereinbefore set forth, presided over by a Minister of State of co-ordinate position with other Ministers, members of the supreme government.

2. That such Minister should be endowed with supervisory and consultative functions as President of a Central Board composed of specialists of independent responsibility, for the exercise of executive attributions for the protection of the public health.

3. That in connexion with such central authority, local representative bodies should be appointed, with supervisory and consultative functions over local officers of health, with securities for special aptitudes, giving their whole time to the responsible performance of their duties, under general rules and orders set by the central authority with the sanction of the Legislature.

Finally, I have to submit to the Congress, as the results of our experiences, that, however well the principles of sanitary science may be developed, they will make only inconsiderable progress under disconnected and weak local administrations. But whenever the established norms are applied and made general, as they may be by a completely-organised administration, they will effect such improvement in the health and strength and well-being of populations as in no age has been witnessed or imagined.

### THE GEOLOGY OF DUBLIN AND ITS ENVIRONS.

In the Geological Section of the British Association during its recent meeting, Professor Edward Hull, F.R.S., gave a sketch of the geology of the environs of Dublin. He said he did so notwithstanding that the geological structure of the district round Dublin was most ably treated by his distinguished friend, the Rev. Maxwell Close, the President of the Geological Society of Ireland, in the handbook issued by the Local Committee of the British Association; notwithstanding the excellent account given of the same subject by Mr. Baily, the Palæontologist to the Survey, and that exceedingly pleasant publication called *Science Gossip*; for it had recently been the plan to commence the proceedings in that section, after the Presidential address, with a brief description of the geology of the district in which the section was assembled for the time being. It was in accordance with this practice he would offer a few observations. In the first place, he would say something about the physical features of the district for the benefit of strangers. The first that struck a stranger on entering the bay was the beautiful range of hills with their several sharp or prominent peaks—the extreme northerly bounds of the Dublin and Wicklow mountains—which might be called the South-Eastern Highlands of Ireland. They extended in a southerly direction to Waterford (40 miles) attaining an elevation in the mountain of Lugnaquilla of upwards of 3,000 feet. It was to the north and west of this range extended the great central plain of Ireland, which stretched from the shores of the Irish Sea between Dublin and Dundalk, across the country towards Galway Bay. It was bounded on the south by those ranges of hills which commenced with the mountain called the Devil's Bit, extending southwards towards the County Limerick, crossing the Shannon above Limerick, and going towards Clare and Galway—forming the outline of the Great South-Western Highlands, with the mountains of Kerry, Cork, and Waterford. Then to the north there was another range of hills of not so great an elevation, and then to the west were the great Western Highlands of Galway, Mayo, and Sligo, including the beautifully picturesque tract of Connemara. All these hills were older formations than the central plain. They rose from beneath that plain, throwing off new forms in every

direction. It was a curious geological paradox that the oldest forms generally occupied the highest grounds. As to the geological structure, it might be better to take the form of disposition or natural order of birth. The oldest forms in Ireland were represented in the neighbourhood of Dublin to the north and south of Dublin Bay. This form was called the Cambrian—similar to the lower Cambrian in North Wales. They consisted of enormous thickness of reddish purple slates, grits, and quartzites traversed by great fissures. These bodies were very well laid open indeed along the railway cuttings at Bray Head; also at the Hill of Howth, where the strata were of a precisely similar character. They were characterised by a few very simple forms—Oldhamia of two species, and also tracks and borings of marine worms. This formation was immediately succeeded by what was called the Lower Silurian, which formed the main tract of the country, ascending the mountains, in some instances, even to the summit of Lugnaquilla, the core of the range being granite. This granite had been intruded through the silurian rocks, and, curiously enough, not through the Cambrian rocks, but had affected the lower silurian rocks to such a degree that, from being formed of fossiliferous slates and grits of a darkest grey and brown colour, they had been converted into what was called metamorphic strata, accompanied by the development of certain minerals. Mica had been developed where these rocks came in connection with granite which was of a newer date than the lower silurian rocks. If the granite were older, the lower silurian rocks would not be altered by the juncture. This juncture was very well seen in numerous places, especially at the foot of Killiney Hill, where dykes of granite could be noticed penetrating the slaty and micaceous schists, and it was also at that remarkable gap, the Scalp, and on ascending Glendalough Valley. The lower silurian rocks were fossiliferous only occasionally, especially to the N.W. of Drogheda. The chief of limestones were to be found at the Chair of Kildare, and also on the east coast, opposite Lambay Island. These were representatives undoubtedly of the Bala limestone of North Wales, and had yielded a magnificent number of fossils representing the Lower Silurian period. Properly speaking, granite should be next taken in order, because it had been intruded into these rocks after the Lower Silurian period. This brought them to the subject of the age of the Dublin and Wicklow Mountains, when they were first elevated, when they first received their great foldings and contortions, and when the enormous mass of molten matter now constituted granite was first intruded amongst these bodies. For a determination of this question they had, of course, to refer to formations newer than the Lower Silurian. At the extremity of the Wicklow and Wexford range they found old red sandstone rising discordantly on the upper edges of the silurian rocks. Consequently, the old red sandstone was never then the period of metamorphosis, which was the period of the first birth of these mountains. Just as in Scotland, along the flanks of the Grampian Hills, they found the old red sandstone rising amongst the crystalline rocks, which were of the same age as the Dublin Mountains, thus they had in both countries the same phenomena. The silurian rocks were upheaved and converted into land before the old red sandstone period. He believed the age of the Dublin and Wicklow Mountains might be placed at that interval of time which elapsed between the close of the Lower Silurian period and the commencement of the Upper Silurian period. The old red sandstone was scarcely represented in this neighbourhood. At Kiltorkin, on the borders of the Counties Wicklow, Wexford, and Carlow, it had, however, yielded some magnificent ferns and other fossil plants, which could be seen in the Museum of the Royal College of Science. The next formation was the carboniferous, which was, perhaps, the most important,

extending over the plain north and south, and principally represented in the neighbourhood of Dublin. It consisted of three divisions—lower, upper, and middle. The middle was of an earthy character, darkened by carbonaceous—principally marine-algæ. The whole formation was undoubtedly a great marine or oceanic deposit. It was, in the first place, full of marine shells, the same as those existing in the sea at the present day. Taking any specimen of carboniferous limestone, however dense, and apparently unfossiliferous—say so thin a slice as to be transparent by the aid of a microscope—they would find it consisted of a mass of shells of those little animals of the early simple forms of life which exist in such vast numbers over the floor of the ocean at the present day. The carboniferous limestone was in all about 3,000 feet; so that the building up of this great organic formation over the floor of the ocean must have taken a period of indefinite duration. The upper portions were almost entirely absent, except at a few points, over the whole country. They had been swept away from over the great central plain. When they went to Kilkenny and Carlow they found the representatives of the middle and upper carboniferous series analogous to that of the British and Welsh coalfields. He wished to direct attention to the remarkable find of batrachia and remains of fishes recently disinterred from one of the coalfields of Kilkenny, near Castlecomer. The coal measures were the next formations in the neighbourhood of Dublin. He had next to refer to glacial deposits. The Rev. Maxwell Close had shown that the whole of this part of Ireland was at one time covered by a thick sheet of ice, which has left its marks upon the solid rock, wherever the rock has been sufficiently protected to prevent the marks being obliterated by time. Those who would be able to be present at the examination of Bray Head on Saturday would have an admirable opportunity of seeing the glacial scorings and groovings upon the surface of the quartzite near Killiney Hill. Drift formations were well represented in the neighbourhood of Dublin. They consisted, in his opinion, and that of many of his colleagues, of three divisions. The oldest was boulder clay or till, a formation which disgusted and dismayed engineers and contractors, but had furnished a great deal of interesting speculation to geologists. Boulder clay could be well seen on the shores of Killiney Bay and on the lower shores of Howth before coming to the hill. It contained blocks of rock generally glaciated or worn by ice—grooved and scored. Some of these glacial stones were to be found in the present excavations at St. Stephen's-green. The stones were not only grooved and scored, but had a polished surface; showing that they had been ground by passing over a mass of ice, and rubbed over solid rock as the ice was moving along. Undoubtedly the lower boulder clay was the result of the original ice sheet which covered the whole country, moving in the neighbourhood of Dublin from the north-west towards the east and south-east, and, what was very remarkable, moving through the central plains, over the hills which rise between it and the sea, by a force he was not going to speak further of. Let them but fancy this shell of ice being obliged to pass from the lower ground over such hills as Killiney and Bray Head out towards the sea. The lower boulder clay was succeeded by another series of drift strata, entirely different, consisting of stratified sands, gravel, and marine shells. A beautiful selection of these shells was open for examination at Howth, close to the telegraph station at the beach, and in half an hour an excellent collection of glacial shells of the period might be obtained. These shelly gravels were, of course, deposited under totally different conditions from the boulder clay which underlay them, because they were evidently deposits which had been formed in the sea of the period. These shelly gravels only covered portions of a low tract of country in the neighbourhood of Dublin, and they ascended the flanks of

mountains to the height of 1,100 or 1,200 ft. above the sea, showing, he thought, clearly that the land had subsided to that extent beneath the sea, so that only the mountains and higher elevations would rise above the level of the waters, and remain islands. There was another very remarkable formation of upper boulder clay which could be seen at Howth, and which immediately succeeded that to which he had alluded. It was but a reduced formation, on account of the cliff not being sufficiently high to give a thick section of it, but in other parts of the country it was to be found in considerable thickness; and indicated a return to those glacial conditions to which he had already referred. This completed the general geological series in the neighbourhood of Dublin, and only one other formation remained to be mentioned—that was the remarkable raised beach which extended along the eastern coast of Ireland from Wicklow to the Giant's Causeway, round to Galway. This raised beach was represented by a terrace of shells (belonging to the neighbouring sea) and gravel, and showed that the shore had been within a very recent period elevated from 3 to 4 or 10 ft. in the neighbourhood of Dublin, but in a greater degree in the North of Ireland. This was very much shown by the Esplanade at Bray, which was really an old sea-bottom raised 5 or 10 ft. above its original position. In the North of Ireland the shelly beach was found to contain some of those arrow head and flint instruments to which the President had alluded. They would see from what he had said that they had within a very short compass a very considerable series of formations, and he hoped the sketch he had given would enable geologists and those who took an interest in the subject to better understand than they otherwise would some of the points of interest about the structure of the neighbourhood of Dublin.

The President expressed the thanks of the section to Professor Hull for his admirable paper. It might be desirable if he gave them some more definite meaning of the term "boulder clay"—what might be boulder clay and unstratified till. The following had been found on a scratched boulder stone:—

"Tell me, Geologist, I pray,  
What you mean by boulder clay;  
Is it moraine, drift, or marine?  
Or, is it neither, or between?  
Did it on floating icebergs tray?  
Or come down mountains mixed with gravel?"

Professor Hull briefly replied, touching the various objections urged by the speakers, and asking them to see for themselves, and gave them a further definition of boulder clay.

#### LINES FOR THE CARPENTER.

Come on, "Chip," and get you ready;  
Sharpen quick your working tools;  
Go a head, if you are ready;  
Work according to the rules.  
On the board there are some drawings—  
"Lines" for soffits, roofs, and stairs.  
Make your moulds and mind your sawings;  
Cut to line where'er it bears.  
  
Go on, "Chip," and mind your shaping;  
Work by mould and template sure;  
Leave no joints or mitres gaping;  
Work once spoiled you cannot cure.  
Know your "lines,"—a careful liner  
Makes good work that ne'er fits ill;  
Carpenter be he, or joiner,  
He's a man of worth and skill.

H. C.

#### NEW PULPIT AND LECTERN, CHARLEVILLE CHURCH.

THERE has just been erected in Charleville Church, a new pulpit to the memory of the late Robert Maxwell, Esq., D.L. The pulpit is composed of Caen stone, of octagonal shape, with pillars of Cork red and Connemara marbles polished, with elaborately carved

caps. The panels are filled in with statuary marble for the inscriptions. On the opposite side is placed a memorial reading-desk or lectern, to the memory of Wm. R. Sanders, of Sanders' Park, Charleville. This also is composed of Caen stone with elaborate carvings and marbles of various colours. The book-rest is of one slab of Cork red marble highly polished.

The satisfactory manner in which the above works have been carried out has been testified by the following resolution, unanimously passed by the select vestry of the parish, on the 4th inst.:—

RESOLVED—That the Select Vestry of Charleville wish to express their great satisfaction with the manner in which Mr. C. W. Harrison, 78 Great Brunswick-street, Dublin, has erected the stone pulpit and lectern in Charleville Church, both of which are much admired; and that the secretary be requested to communicate this resolution to Mr. Harrison.

JOHN J. SARGENT, Rector, Chairman.  
THOMAS SANDERS, Secretary.

#### TO CORRESPONDENTS.

THE IRISH INSTITUTE OF ARCHITECTS.—An architectural correspondent might read Mr. Barry's letter in our present issue with advantage. We will wait awhile longer "to see if we shall see what we would like to see" to be satisfied.

"ANOTHER CARPENTER."—Your letter and "lines" are a little obscure. Re-write your letter, and make your ideas of getting out the "twist" as plain as a pikestaff. If you like, furnish us with a working drawing.

B.C.—We quite agree with you in the opinion that the system of wood pavement invented and patented by our fellow-citizen, Mr. Samuel Robinson, is worthy of a trial by the Corporation, in case they lay down a portion of Great Britain-street, in the vicinity of the Rotundo Hospital.

RECEIVED.—A Surveyor (Anticipated).—M. D. (Thanks).—J. B.—W. R.—Anna Liffey (New Brooms are said to sweep clean).—R. D. S.—R. A.—Antiquary.—W. C.—F. F.—S. and Sons, &c.

#### HOME AND FOREIGN NOTES.

THE BROMPTON ORATORY.—Mr. Herbert A. Gribble and Mr. J. T. Walford announce that the execution of the work at the new church at Brompton is to be carried out under their joint superintendence.

THE PUBLIC HEALTH (IRELAND) ACT, 1878.—Mr. John Falconer, of Sackville-street, has brought out in handy form this act of 300 sections. It has schedules and a capital index, and will be sure to command a large sale.

THE IRISH ARTISANS IN PARIS.—On Wednesday last the twenty-two artisans from Dublin were received by appointment in the Prince of Wales's Pavilion by Mr. Cunliffe Owen, who, having cordially welcomed the deputation, conducted them through the tastefully-decorated apartment, and made arrangements for facilitating the visitors to the industrial establishments of the city. A vote of thanks, proposed by Mr. Mollay, and seconded by Mr. J. A. Fahie, C.E., was passed to Mr. Owen for his courtesy.

MORE LAW COSTS.—Mr. Richard Walsh, C.E., has entered an action against the Corporation to recover £26 for services rendered by him in connection with the abortive "Dublin Improvement Bill." The law agent (Mr. MacSheehy), coinciding with the opinion of Mr. Monahan, Q.C., recommends that the claim should be paid. It appeared from a statement made by Alderman Gregg that the point in dispute lay between Committees Nos. 1 and 2. The former declined to pay as they had not ordered the work, and the latter, having charge of the finances, should decide as to whether they would pay it. The G. P. C. will take the important matter into consideration before Christmas.

RECEIVED.—Handbook to St. Patrick's, Dublin, by Rev. Canon Leeper—Notes on Glengarriff and Killarney—Poverty of India, by Dadabhai Naoroji—The Berlin Treaty and the Anglo-Austrian Convention, by Right Hon. W. E. Gladstone, M.P.—The special edition of the *Illustrated Australian News*, dated June 10, consists of thirty-two pages of well printed matter, embracing views of the chief buildings and streets of Melbourne. An account of the rise and progress of the colony is given in French and English. The paper will bear comparison with any of its Old World contemporaries.—Teaching to Read in Primary Schools.—&c.

NEW ORGANS.—On Wednesday, 28th ult., a new organ of rich and mellow tone, built by Messrs. W. Browne and Son, of this city, was opened in Moylough Church, Diocese of Thom. The same firm has also recently erected a new organ in Sandy-mount Convent, Dublin.

**THE PUBLIC HEALTH (IRELAND) ACT.**—The Amending or Consolidating Act of the late session has been truly termed "A Long Act of Parliament." Some amending acts are short, and a consolidating act may also be short though comprehensive, but the Irish Health Act is the largest passed during the late session. It has 294 clauses and several schedules extending to 34 sheets. The act is divided into several parts, and it treats of a variety of sanitary matters and infectious diseases. Among the penalties is one which is likely to work a salutary effect in this country. Any person having a "wake" over a person dying of an infectious disorder will be mulcted in £10. We hope these penalties will be enforced. As they have been too often carried on, "wakes" are barbarous relics of the past. Respect for the dead is one thing, but several "wakes" have been simply a process of killing the living. Whether in the case of an infectious person or corpse or not, the usual wake is a great nuisance and a positive danger to health and morals.

**THE PANAMA CANAL PROJECT.**—The project of cutting through the American isthmus for the purpose of establishing a communication between the Atlantic Ocean and the Pacific has entered upon a new stage. A convention has been concluded between the United States and Columbia, represented by their Secretary for Foreign Affairs, Señor Eustorgio Salgar on the one part, and Mr. Luciano N. B. Wyse, the chief of the scientific expedition for exploring the isthmus in 1876, 1877, 1878, and member and delegate of the International Company for an Inter-oceanic Canal, on the other part, by which the privilege of constructing a canal from the Atlantic to the Pacific is accorded to the above company. The vast expense attending such an undertaking has hitherto principally delayed the commencement of the works, for there has been no scarcity of projects. Two plans especially were prominently brought forward. One included the section of the isthmus in Nicaragua, making use of the great inland lake of that country; the other confined itself to the cutting the isthmus of Panama in the direction of Aspinwall to Panama. The latter project seems now finally to have been adopted, notwithstanding the most eminent engineers of the United States of America have always preferred the Nicaragua route, basing their predilection on personal inspection of the country. M. Ferdinand de Lesseps, the constructor of the Suez Canal, also gave his opinion in favour of the Nicaragua Canal. In a letter addressed conjointly to the Minister of Nicaragua in London and the Consul General of that country for France, he describes the project of the Nicaragua Canal as that "which offers the greatest facilities of execution, and the greatest security for carrying it out."

**A SEASIDE NOVELTY.**—The popular watering-places which have sprung up some nine miles from New York present several features of interest to those who are just now renewing their annual acquaintance with similar resorts around our own coasts. Within the past few years the narrow strip of white sand known as Coney Island has become what is described as one vast hotel. Coney Island is about four miles and a-half long and a mile and a-half broad; yet, within this space, five watering places have appeared, with between some twenty hotels and six lines of railway. The aristocratic resort is the Manhattan beach, where there are two huge bathing pavilions. One is devoted to the ladies, over one thousand of whom use this monster bathing machine daily. It contains four hundred rooms, lighted with gas and running water, and other appointments of comfortable and convenient dressing-rooms, and being contiguous to the sands, is a vast improvement on the wretched little boxes on wheels with which most of our seaside resorts make us familiar. There is a similar pavilion for gentlemen, containing 700 rooms. For the amusement of those who do not bathe, a large amphitheatre has been erected in front of the beach, affording a good view of all that goes on there. Refreshment bars are provided here, and a band of music, and the public are admitted at a charge of ten cents. The most striking feature in connection with the bathing at Coney Island, however, is the electric light that has been recently established on the Manhattan beach, for the purpose of enabling visitors to take advantage of the tide after dark. Three magneto-electric machines are employed, and by means of a steam-engine a light is produced equal to 3,000 candles, and said to be capable of exercising an appreciable influence five or six miles out at sea. It has become the fashion to bathe under this novel illumination, and the spectacular effect of the waves, and the quaint costumes of the bathers, are described as very singular, and it is a very strong inducement to visitors to pay their 10 cents for admission to the spectators' amphitheatre.

**ELECTRIC LIGHT.**—On this subject, which is at present attracting much attention, the *Electrician* says:—One of the most interesting subjects to the electrician, and scarcely less so to the public at large, is the future of the electric light. The history of research in this direction commences with the century. The large, and, for the time, complete work of George Adams on "Natural and Experimental Philosophy," published in 1794, makes no mention of the electric light, but in 1801 we find Davy experimenting with a battery of 2,000 plates, each four inches square. "He used charcoal points, made of light wood charcoal which had been heated to redness and immersed in a mercury bath." Since the time of Davy a good deal of attention has been directed to methods of utilising a current of electricity for general illuminating purposes. So far have we succeeded that we can even venture to light up public places and assist engineers in lighting work in progress, so that relays of men can work night and day. In Paris, indeed, a few streets have been fitted experimentally with electric lamps. The babe has grown into a healthy youth, and promises to make a strong man.

**INSANITY IN ENGLAND AND WALES.**—During the last twenty years (says the *Medical Press*) the absolute number of lunatics in England and Wales has almost doubled itself; for whilst there were on the 1st January, 1859, over thirty-six thousand lunatics, there were in the beginning of this year over sixty-eight thousand. Is then our lunatic population to go on increasing at the rate of 32,000 every twenty years, at which rate it will have amounted, sixty years hence, to upwards of 160,000? Is the ratio of total lunatics to population to go on increasing at the rate of 10 per 10,000 every twenty years? It is evident from the above statistics that neither increase of population nor pauperism is at the bottom of this evil. To what causes therefore are we to attribute it? These questions call for an early and decided answer. If a few cases of typhoid fever occur here and there, all possible means are taken to trace it to its source, and to check its further progress. But here is a more terrible and dreaded disease than typhoid fever endemic amongst us, increasing every year, and attacking all classes of the community. Our asylums are even now overcrowded; and everywhere we hear of fresh asylums being built or new wards opened to receive those that are coming and those that have still to come.

**A MUSEUM OF HYGIENE.**—One of the latest indications of the growing interest taken in matters of public health is the formation of a Museum of Hygiene at University College, London. Ten years ago the authorities established a professorial chair of hygiene, and Professor Corfield has gradually drawn around him classes both of medical students and of ladies, the latter being instructed in such matters of sanitation as fall under their supervision in domestic affairs. The establishment of the chair was to a large extent an experiment, as it was the first of the kind in this country. There already existed the Professorship of Hygiene at the Army Medical School at Netley, but this was the first for civilians. The success that has attended it has given encouragement to the council to still further facilitate the spread of sanitary knowledge by the formation of this museum. When the arrangements are a little more complete, it is intended that it shall be thrown open free to the public on certain days, and already it is sufficiently advanced to show how useful it is likely to be. In a circular issued by the executive committee, of which Sir W. Jenner is chairman, the expectation is expressed that the museum will, "by methodically displaying in the most convenient manner select illustrations of every department of hygiene, acquire national interest as a standard repertory of the latest sanitary improvements, and as a pattern for facilitating the formation of similar collections at other educational centres." The scope of the museum is wide, and certain sections are in but little more than skeleton form. The committee invite suggestions, and those who have objects to forward or suggestions to make would do so most effectually now before the arrangements are too advanced to admit of ready alteration. The grouping, as it at present stands, is this:—1. Local hygiene and sanitary engineering. This includes climatological charts, giving isothermal lines for various seasons, &c., maps and tables showing the effects of causes appertaining to physical geography in influencing death-rate in normal times, in epidemics, &c. Views, plans, &c., of sanatoria, and their surroundings. Plans and sections of sewerage and drainage works, &c. 2. Hygienic architecture, which includes dwellings of all sorts, from tents and camp huts, to complex model lodging-houses. The details of construction include materials for walls, &c., as well as for furniture that will not collect dirt or zymotic effluvia, &c. 3. Apparatus and materials for lighting and

warming. 4. Clothing, including illustrations of the effect on health of various materials. 5. Foods and dietaries. 6. Personal regime. 7. Safety and rescue, which embraces safe window-cleaning apparatus, all kinds of disinfectants, &c. 8. Industrial and professional hygiene, taking illustrations among other things, of noxious trades. The appliances for drain pipes, for stoves, and for chimney cowls are already very numerous, and when the collection is still more complete it is easy to see the advantage to those who need to have their stoves or chimneys altered to go to a permanent museum, unannoyed by solicitations to purchase, and examine the various methods invented. The museum is not an attractive one, to which one would go for amusement, but it is a place where much may be learnt from visual instruction.

## A NEW MINERAL WHITE PIGMENT.

By Dr. T. L. PHIPSON, F.C.S., &c., London.

FOR many years past attempts have been made by several chemists to discover some new mineral white of a less costly and less dangerous nature than white lead; but very little success seems to have attended these researches until recently. During the last few years I have made a great number of experiments in the same direction, hoping to utilise some of the artificial silicates which are remarkable for their brilliant white colour. To this effect I have submitted the silicates of zinc, magnesia, and lime, more especially, to a great variety of treatments, but have been, hitherto, unsuccessful in imparting to them anything like the "body" or covering power of lead carbonate.

Whilst occupied with these experiments I learnt that Mr. T. Griffiths, of Liverpool, had obtained a new mineral white, the basis of which was sulphide of zinc, and on submitting this new product to a careful examination I found, with astonishment, that it not only surpassed the old zinc white (oxide of zinc), but that it was superior in every respect to carbonate of lead itself. It is obtained by precipitating either chloride or sulphate of zinc by means of a soluble sulphide—sodium, barium, and calcium sulphides have all been used for this purpose—and precautions are taken lest any iron, that may be present in small quantities as an impurity in the zinc solution, should be precipitated with the white sulphide of zinc.

The precipitate being collected and dried is transferred to a furnace, where it is calcined for some time at a cherry-red heat, and carefully stirred so as to bring all parts of it successively in contact with the air. It is then raked out whilst quite hot, into vats of cold water, where it is levigated, and afterwards collected and dried. The result is a white pigment of exquisite beauty; its covering power when mixed with oil is greater than that of any substance hitherto discovered, being about 25 per cent. higher in this respect than that of the same weight of pure carbonate of lead.

Of course a white of this nature is not liable to darken in colour by sulphuretted hydrogen emanations, as occurs with white lead; but it has also the advantage of not proving prejudicial to the health of the workmen who manufacture it or who use it. I have compared it carefully with the old zinc white, and with white lead, as regards covering power, tint, and durability, and am perfectly surprised at the results of these experiments, which it would be too long to record here; but knowing as I do from the results of my own endeavours, how difficult it has been to discover a new white of these qualities, I look upon this oxy-sulphide of zinc white as one of the most interesting products hitherto derived from mineral chemistry.—*Engineer*.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress in town or country. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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## Illustration.

DESIGN FOR THE HOUSES OF PARLIAMENT,  
MELBOURNE.

## Contents.

|   | Page |
|---|------|
| THE NATIONAL MONUMENTS OF IRELAND .. ..   | 275  |
| Irish Board of Works Administration .. ..   | 276  |
| The Houses of Parliament, Melbourne .. ..   | 277  |
| The Pulsometer, or Direct-acting Steam Pump ..  | 278  |
| The Artisans' Dwellings Act .. ..   | 279  |
| River Regulation in Ireland .. ..   | 279  |
| Death of Sir R. Griffith, Bart., C.E. .. ..   | 280  |
| The Importance to Artisans of Acquiring a Knowledge<br>of Drawing .. ..   | 280  |
| The Rainfall of Ireland .. ..   | 284  |
| The Discharge of Sewage into Tidal Estuaries ..   | 284  |
| Royal Institute of British Architects .. ..   | 285  |
| Commission of Enquiry into Municipal Boundaries ..  | 285  |
| Christ Church, Cork .. ..   | 285  |
| Correspondence—   |      |
| Christ Church Monuments .. ..   | 285  |
| Lectures at the Coffee Palace .. ..   | 285  |
| Social Science Congress .. ..   | 285  |
| Trades Union Congress at Bristol .. ..  | 286  |
| Re National Monuments .. ..   | 287  |
| Christ Church Cathedral .. ..   | 287  |
| Adversaria Hibernica—Literary and Technical ..  | 288  |
| Books Received—   |      |
| The Public Health (Ireland) Act, 1878, with Sched-<br>ules, &c. .. ..   | 289  |
| Historical Handbook to the Monuments, Inscriptions,<br>&c., of the Collegiate, National, and Cathedral<br>Church of St. Patrick, Dublin .. .. | 289  |
| The Journal of the Royal Historical and Archaeological<br>Association of Ireland .. ..  | 289  |
| The Rule of Thumb .. ..   | 289  |
| The Late G. P. Bidder, C.E., F.R.S. .. ..   | 289  |
| An Extravagant Salary!! .. ..   | 290  |
| Home and Foreign Notes .. ..  | 290  |
| Notes of Works .. ..  | 290  |
| To Correspondents .. ..   | 290  |

## THE IRISH BUILDER.

VOL. XX.—No. 451.

THE NATIONAL MONUMENTS OF  
IRELAND.

RESUMING our notice of Mr. Deane's report—the next group of buildings of which we are furnished some particulars are at Kilmacduagh, Co. Galway. They comprise the following:—The

Cathedral, Tempul Mor; the Belfry, Tempul Muire, or the Church of Mary; a Church, Tempul Eoin Baiste, or St. John's Church,

Seanchloch, or Abbot's House, Tempul Mac Duach; and the Monastery, or Hynes' Church. Of the Cathedral, in the western end, or the doorway therein, the superintendent, quoting some authorities, says it dates from about the year 610, having been built for St. Colman Mac Duach by his kinsman, Guaire Aidhuc, King of Connaught, and attributed "to the celebrated architect, Goban Saer," to whom the erection of the tower at Glendalough, County Wicklow, is also assigned. The rest of the building, which is put down to the fourteenth or fifteenth century, is thus remarked upon:—"The similarity of the masonry between the Round Tower and the west end of the Cathedral is particularly interesting; there can be no doubt as to their being coeval, and suggest having been built by the same hands." The building is reported to be in fair condition, and the nature of the repairs carried out is similar to that adopted

in other cases—preservation, not "restoration," being the order. The repair of the Cathedral will follow when the other work is completed at one or more churches of the group already mentioned.

Concerning the Tower, Mr. Deane writes: "This is one of the largest in Ireland, its masonry of the earliest period, and presenting all the features of what may be called Cyclopean. The Tower has evidently been struck by lightning, and the utmost care must be taken in any steps towards its future protection. It not only overhangs considerably, but has several rents almost from top to bottom. It is now under consideration what steps should be taken for its security." In the light of these observations of the superintendent, the question may be asked—Does Mr. Deane consult any professional person—architect or archaeologist—outside the Irish Board of Works as to what may be the proper steps to take in important cases? Any ordinary architect of experience may be qualified to proceed with the reparation of minor national and ecclesiastical structures, but in several instances difficulties will arise where the superintendent must be in doubt as to the treatment to be adopted. No one will contend, we think, that the Chairman of the Irish Board of Works or his brother commissioners are adepts in architectural knowledge, though possessing business capacity in administrative duties. The architect of the Board of Works (Mr. Owen), many are aware, has had little or nothing all his life to do with the repair or restoration of ecclesiastical edifices. Experience has qualified him for the design, erection, and repair of the ordinary class of works carried out by the Board, but in ecclesiastical work his knowledge must be limited. The superintendent, therefore, of our National Monuments will require occasionally, if not often, external aid and advice; and we hope he will avail himself of it, and that the Board of Works may be empowered to make arrangements for procuring this aid and advice when it is necessary, and we contend that it is sometimes necessary.

Concerning Hynes' Church, accounted the most interesting of the group in architectural detail, the chancel piers are reported quite perfect, with well-carved capitals. Illustrations are given of the east window of this church, with plan, and also the carved capitals.

We have quoted Mr. Deane in his spelling, dates, and geography, in respect to buildings mentioned above; but we would refer the reader who would wish to set himself right to consult the pages of Lanigan, Petrie, and Brash. The latter writer, we hold, in his dates and architectural descriptions comes nearer the truth than the others. We are sure that Mr. Deane has committed mistakes or allowed errors to pass into print, but we are not called upon to correct him in every instance. His forte is not of the historian of National Monuments, but the superintendent and reporter of their repair. In speaking further of Hynes' Church, the superintendent writes:—"The quoins at east end have wrought and moulded shafts. At north side is a wall of a more ancient church running parallel with the wall of the nave. I am disposed to agree with the Rev. M. Shannon (the parish priest), who has taken great interest in the ruins, that the present north wall of the nave, which was rebuilt when the greater portion of the more ancient wall fell,

was built not on the original site, but inside it, and that the old portion was allowed to stand in its original position. The question of the date of this church is one on which at present I am unable to give a decided opinion. At first glance one would be disposed to attribute it to the end of the twelfth century; but there is a peculiarity about the mouldings, and certainly in the capitals, which leads me to think it is of later date. If this is the case, it is a very curious instance of a copy of an earlier at a late period. At Cashel I have found an imitation of early English work done in the sixteenth century, and here I am disposed to consider the east windows and piers at Hynes' Church to be a copy of Romanesque work." The ivy, it is said, has made terrible havoc in this church, the stones of the east windows being much dislocated. Illustrations are given by Mr. Deane representing portions of the church, the mould of pier, base, &c.

The church at Movilla, Co. Down, founded, it is said, about A.D. 540, is described as originally 107 ft. long, but "nothing of interest, except the eastern and western windows now remains." Some reparations have been carried out, to prevent further decay. Illustrations of several interesting monumental slabs found in the churchyard are given. Reparations have been completed at the church, St. John's Point, Co. Down, a building of very ancient date; and repairs, at the date of the report, were proceeding at Maghera Church and Round Tower in the same county. In this last place there are only slight remains of the church and a stump of the Round Tower that once existed, but both mark the site of a famous monastery. The ruins of the churches at Loughinisland, Co. Down, are in the old parish cemetery, and are of the ordinary type of native churches.

The last ecclesiastical ruin reported upon is Howth Abbey, Co. Dublin, which has often been described by antiquaries, archaeologists, architects, and others. It will be no harm, however, to quote Mr. Deane's brief remarks upon the historic old abbey:—"The name of Howth is Danish, and signifies 'a head,' the Irish name being Edar or Ben Edar. The church which seems to have been occupied for divine service up to a comparatively recent date, and to have suffered accordingly, occupies a commanding position on the spur of the hill towards the harbour. It consists of a double nave, originally of the fifteenth century work, considerably altered in the sixteenth century, when apparently a gable was added at the west end bearing a triple bell cot. At a subsequent period, the outer walls on the north and south sides were reduced in height, cutting across the side windows which were built up, gables built at each end, and the whole building was covered with one roof." All we are further told is simply—"Some progress has been made in repairing the above," and at that "adjoining the church yard is a building locally known as the college." We presume when the reparations are completed at Howth Abbey we will be furnished with further details of the work done and its nature. As Howth, however, is only a short distance, or less than half an hour's rail from the city, we may find an opportune time for visiting the historic old abbey before the issue of the next report on our National Monuments.

It would furnish pleasant and useful employment for some of our young architects,

archæologically inclined, to pay visits in the summer and autumn months to some of the buildings repaired, or under process of reparation at the hands of Mr. Deane. They could sketch, and criticise, and amass materials for lectures or sessional papers or articles in the professional press. The reviewing of a report on repairs executed for the preservation of our National Monuments is one thing, but taking notes and personally examining the work done is the more practical form of reviewing; and this is the kind of work which we would have no objection to do now and again for the love of the thing, and for affording the profession and the public a fair insight into what had been done, or was in process of being done, in the way of judicious and rightful preservation.

For the purpose of affording our readers and others interested in the preservation of our National Monuments, we reproduce elsewhere the evidence given by Mr. Roberts, the Assistant Commissioner of the Board of Works when under examination at the late Committee of Inquiry into the administration of the Board. The answers given to the chairman and other members of the committee will show the nature of the arrangements made by the Board of Works for the supervision of the works by Mr. Deane, and of other matters appertaining. Conclusions, therefore, can be readily drawn whether the arrangements are all that can be desired in such an important matter, and if the supervision of our National Monuments and Ecclesiastical Ruins calls or calls not for a more perfect plan of proceeding to ensure satisfactory results.

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

THE Committee of Inquiry, in their report, entered into lengthened details of the Inland Navigation of Ireland, giving the history and working of the Shannon, the northern, the midland, southern, and separate systems of navigation. In the administration of this service under the Irish Board they prefer some complaints, but we cannot follow them through the sinuous windings of the subject. One or two points, however, may be noticed.

Referring to the act of 1846, the committee hold that its intention was not fulfilled till 1850. They describe the incomplete state of the works, which has remained unaltered since the last-named year. They point out that the drainage has been sacrificed to navigation; and, speaking of the periodical floodings and losses occasioned in respect to the defective state of the Shannon, the committee say:—

“It must be borne in mind that it is the constantly recurring overflows, more especially in summer and autumn, which do the greatest amount of mischief, and as to the injurious effects of which there is no controversy.”

The committee propose, respecting the Shannon, that a further inquiry should at once be instituted, and they recommend that—

“The Commissioners of Public Works should be instructed to take the matter themselves seriously in hand, with some other engineer associated with them to represent the interests of the district proprietors; and we think their inquiries should be directed to developing a plan which will secure the districts liable to flooding a maximum of relief at a minimum cost.”

Speaking of the insertion of sluices, and

the cost of their construction, the committee observe:—

“Mr. Lynam estimates the cost of constructing six movable regulating weirs at £25,000, but we understand this to be an under-estimate. We are of opinion, however, that with a few additional works a serviceable improvement of the present state of the river might be effected for a comparatively moderate sum. Considering the smallness of such outlay compared with that proposed in 1874, when the Government offered a grant of £150,000, we think that public funds might be allowed to contribute liberally towards the expense.”

When the measure of relief advocated would be accomplished and the Government liabilities discharged, the committee think a long-standing complaint would be removed, the riverside lands would be made capable of yielding a larger return, and that navigation prospects would revive in consequence of the demand for means of transit being *pro tanto* increased. The committee also think that the Government would be eventually in a better position to consider the advisability of handing over the works and property of the navigation to a board of trustees representing local interests, as advocated by the Select Committee of the House of Lords in 1865. The prospect of arriving at a satisfactory settlement on this head will, in the opinion of the committee, “necessarily depend upon the cordiality of the support and the extent of the co-operation which the proprietors are prepared to afford to the Government.”

Col. M’Kerlie, in his “Statement,” issued subsequently to the report containing his evidence, writes:—

“I would beg to point out that the views and acts of the present Board as representing the former Shannon Commissioners have not only been entirely misunderstood by the public, but also to my deep regret by the Committee of Inquiry. The actual facts of the case I also regret to find have failed to be correctly conveyed to them.”

Now, who is to blame for this? The Chairman of the Irish Board and his colleagues were examined at length, and much evidence was elicited. Every opportunity, we think, was afforded by the committee during the inquiry for hearing what the witnesses had to say for and against the administration of the Board. Col. M’Kerlie says:—

“The first attention of the present Board was directed to the navigation by the disastrous effects of the heavy summer floods of 1860–1. On that occasion, the Board looking to the numerous complaints and allegations that the works of improvement had actually aggravated the liability of flooding, advised the Government to have an independent inquiry made by Mr. Bateman, the eminent hydraulic engineer, whose employment having been approved, his report, it is begged, may be referred to. Desirous of doing everything in their power to reduce the risk of injury from any recurrence of the floods, the Board, with the Treasury’s sanction, expended a considerable balance in their hands (over £2,000) in improving the watercourse, especially at Killaloe and at Lanesborough. They also had a report from their own engineer as to the cost of carrying out a general measure of improvement which would obviate the evils complained of; and on the estimate so obtained, viz., £150,000, and on the Board’s recommendation Mr. Peel’s letter of April, 1865, holding out promises of aid to the proprietors, was issued. That offer so made was not accepted by the proprietors.”

Speaking of the subsequent projects and estimates in 1867 for the improvement of the river, made by Messrs. Bateman and Lynam respectively, and the surveys of the injured lands and the valuation of the benefit to be derived from the works undertaken by Messrs. Brassington and Gale on behalf of the Government, Col. M’Kerlie says:—

“The valuation was fully agreed on between the valuers, and the Government thought it prudent to adopt Mr. Bateman’s plan, though more costly.”

The delays which took place, Col. M’Kerlie holds, were nowise attributable to the Board, and he adds that ultimately in 1874 the act was passed authorising the works, and granting a contribution of one-half of the cost out of the public funds.

“That offer,” writes the Chairman, “so made, fell to the ground through the proprietors declining to contribute the moiety required of them, on the grounds that the charge would be too great, and that they desired generally to retain the winter floods as beneficial, and thus the matter stands.”

From both sides we learn what is apparent, that delays took place, which have occasioned serious losses; and the committee, as we see, hold the Irish Board of Works responsible by their action, which may be described from the committee’s point of view as “masterly inactivity;” but from the Chairman of the Board of Works’ opinion “in no degree were attributable to the Board.” Col. M’Kerlie further remarks:—

“I must observe, however, with a view to putting the Board right before the public, that they have invariably advocated the desirability of improving the river, and of public aid being given towards the measure. They at the same time, however, felt it their duty to point out, when required, that there was a misconception on the part of the proprietors and occupiers of flooded lands in regard to the works executed by the Shannon Commissioners having aggravated their injuries.”

The Chairman of the Board also reminds his readers that the extent of the lands formerly flooded was reduced from 32,000 acres to about 20,000 by the works, and that the Board have not allowed the Shannon to be an obstacle to carrying out the improvement of the Suck district, a work now about being undertaken.

In reviewing the northern system of navigation, the committee charge the Irish Board with the want of a definite policy, more particularly in relation to the Ballinamore Canal. The committee say:—

“We think it is to be regretted that the present Commissioners of Public Works and their predecessors, instead of pursuing a more definite policy towards these navigations, have allowed many thousands of pounds to be spent within the last twelve years on the Ulster Canal, while on the Ballinamore Canal, which belongs to the same navigation system, they have refused to be consenting parties to the smallest expenditure. It may be said that they have only dealt with each case on what seemed to them its merits.”

The canal is, of course, now useless, and has been for years; and this was made manifest in the report of Mr. Pratt, the local surveyor, so far back as 1860. Speaking of the works of the Ballinamore and Ballyconnell Canals, the Chairman of the Board refers to the Special Commissioners’ report and says:—

“The incomplete state of the works was there fully stated, and it was in consequence of that that the Commissioners recommended that of the whole, amounting to £198,000, the sum of only £30,000 should be charged, the moiety to which the counties were originally made liable being £45,000. The fullest opportunity was given to all concerned to consider and object to the report and its recommendations if they thought fit to do so; and it was not until after the award was made final, and the canal was about to be handed over to the trustees, that Mr. Pratt, the county surveyor, and their engineer put forward the statement of the defects, and estimate of making them good. The board had had the canal carefully examined and defects made good before the award based on the report of the Special Commissioners was made final. They had no power to incur further expense, and so intimated to Mr. Pratt. At the same time they satisfied themselves by reference to their engineer, that the statement was exaggerated, if not to a great extent unfounded. In this matter, too, I trust it will be seen that no just reflection can be made on the Board.”

In concluding that part of their report which relates to the northern system of navigation, the Committee of Inquiry recom-

mend the appointment of a Royal Commission to ascertain the following important points:—

"1. Whether for the purpose of the navigations generally, the water has been shut up and the drainage powers of the country interfered with, and decreased, either by the non-removal of natural, or the creation of artificial drainage, obstruction; and if so to what extent. 2. If such is the case, whether with reference to the original design of a through system of navigation in connection with the drainage of the country, it is really practicable to combine the two objects; and if that is impossible, whether the present use, and the possible future success of the navigation, should be weighed against the immediate and continuous loss to agriculture; or whether the navigation should be in some cases abandoned. 3. If such is *not* the case what probability there is of the navigation being utilised within such a reasonable time as would justify an immediate further outlay of public money to put them in order, and a continuous outlay so as to maintain them until the period of use may arrive. 4. If the whole or part of the navigations are to be maintained, what average depth of water is sufficient for practical purpose; and under whose direction they should eventually be placed."

The above observations are made with special reference to the northern system, but the committee consider they are more or less pertinent to the other systems of inland navigation throughout the country with which the Government have any connection. The inquiry the committee recommend in respect to the northern system they think should also be extended to the others; but as regards the Shannon, they are of opinion that it might be well that the steps they have already advised should not be taken until the commission has reported.

*Re Fishery Piers and Harbours*, the committee say they have received no complaints about the administration of this service generally by the Board of Works, though they take occasion to notice two cases relating to Ballyloughane Breakwater, and Port Oriel Pier. Respecting some works of construction required at the former to meet the requirements of the locality, the committee observe:—

"The Board's engineer was thereupon directed to examine the site. Being limited to a small outlay, he proposed the construction of the breakwater, the cost of which he estimated at £540. On receiving his report the Board recommended the Treasury to sanction a grant of £400 in aid of the work. Your lordships' predecessors, however, without assigning reason, declined to entertain the application."

In the Port Oriel case the committee remark:—

"Last year the Board represented the case of Port Oriel, County Louth, to the Treasury, as requiring an additional outlay of £300. They asked to be allowed to meet this sum out of their unexpended balances on the vote for public buildings. Your lordships, however, assented to the expenditure conditionally on the district bearing the extra charge, and accordingly a loan instead of a grant was authorised."

Commenting on these two cases the committee feel called upon to say:—

"We venture to think that in cases of this kind, when an outlay has been approved by two departments, independent of each other—the Board of Works and the Inspectors of Fisheries—some reasons should be assigned by the Treasury for refusing to concur in the recommendations of the department responsible for administering the acts of Parliament intended to protect and encourage sea fishery interests."

We will pass over details respecting the other services administered by the Board of Works on the head of various "Loans to Counties," which is reported upon by the committee as well as loans to local boards, as they embody no complaints against the Board.

Speaking of Harbour and Dock Loans, the committee recommend that the act under which the Public Works Loan Commissioners

of England advance money for Irish purposes should in future in connection with this country be administered by the Irish Board. They say:—

"We see no sufficient reason why harbours of one particular description should any longer form an exception to the recent policy, which has been to concentrate in the Board of Works, Ireland, all State loan operations for Irish services. The commissioners of this Board are well acquainted with the country in general, and, in conjunction with the Board of Trade, they are probably better able to form an opinion as to the requirements of the coast and the trade. They would, moreover, be able to get through the preliminaries at less cost than the Loan Commissioners in London, who have to send over at some expense special engineers. The committee, therefore, recommend the act of 1861 should be amended, so as to transfer from the Public Works Loan Commissioners to the Commissioners of Public Works, Dublin, the duty of making advances in Ireland."

We hope to see this suggestion carried out.

The administration of the Glebe Loans (Ireland) Act, in the opinion of the committee, throws a considerable amount of work and trouble on the Irish Board of Works, involving, as it does, inquiries not only into the object of applications and into title, but also into the position and solvency of the persons named as sureties. On the whole, however, the committee think the acts have worked satisfactorily, and have been the means of contributing materially to the improved position and comfort of the clergy.

Before passing over a few more services administered by the Board and reported upon by the Committee of Inquiry, we will briefly take notice of that relating to the "Examination of County Surveyors' Assistants," one of the extraneous duties thrown on the Irish Board. Originally the Board were examiners for county surveyors as well, but the act of 25 and 26 Vic. transferred the examination of candidates to the Civil Service Commissioners, omitting to make any provision as regards the assistants. The committee on this head say:—

"We agree with Mr. Le Fanu that the present arrangement is an anomaly, and we consider that if the qualifications of county surveyors can be satisfactorily tested by Civil Service Commissioners there is no reason why their assistants should not be examined by the same body. It is, of course, essential that the examination should be given as practical a character as possible; but with the assistance of experts there will be no difficulty in attaining this at the hands of the Civil Service Commissioners. We therefore recommend that the Board of Works should be relieved in future of the duty of certifying to the fitness of candidates for assistant county surveyorships; but this relief cannot be given except by legislation. A clause dealing with this point should accordingly be inserted in the next County Officers' Bill."

The working of the Irish Land Acts was excluded from the inquiries of the committee, in consequence of the appointment previously of another Committee of the House of Commons, who have not yet reported.

We have now in our hurried review reached that part of the committee's report which deals with "Buildings and Supplies." These services involve several complaints, and, judging by the evidence of the witnesses examined, there was a looseness in the system of administration in respect to them, and a want of discipline.

In our next article we will notice a few points and give the gist of the committee's criticism, not forgetting at the same time to afford fair play to the Chairman, whose "Statement" in defence will not be ignored. The Blue Book is a rather lengthy and heavy volume in more ways than one, and its proper review alone, and the criticism it would suggest would make a volume nearly as large.

We have preferred, however, to quote both sides at important points, so that the reader who has not the "Report" and the "Statement" before him may arrive at a conclusion for himself, if he is so disposed. It is far easier we know for some writers to criticise than create, and condemnation is less congenial work to many minds than laborious analysis.

## THE HOUSES OF PARLIAMENT, MELBOURNE.

AMONGST the many excellent wood engravings given in the "special edition for the Paris Exhibition" of the *Illustrated Australian News* is one of the revised design for the new Houses of Parliament at Melbourne. This we have re-produced by the photo-lithographic process, and present our readers with a print in this issue.

The design, as revised, is by Mr. Peter Kerr, of the Department of Public Works. The *ordonnance* employed encircling the entire structure is Roman Doric, in unison with the library front in all its details, standing on a rusticated bluestone basement, the entrance, or Spring-street façade, is approached by a grand flight of bluestone steps, 140 ft. in length, to a noble portico of the same length, by 13 ft. in width, between the fluted columns and pilasters, and 45 ft. in height. The columns, &c., are 4 ft. in diameter above the base; and in the centre of the portico in three of the bays are coupled columns on each side supporting an entablature, having three large recesses, semicircular-headed doorways, which lead into the grand entrance vestibule, communicating with the main hall, and members' private corridors, and to the right and left at the extreme ends of porticos are similar entrances to the several committee, conference, ministerial and opposition rooms, &c., of assembly and council. A group of allegorical figures representing Legislation surmounts the attic over the centre of portico, in front of the stylobata of dome, which is surrounded with an Ionic *ordonnance* crowned with an entablature, &c.; also allegorical figures, &c., representing Science, Fine Arts, Commerce and Agriculture surmount (in the centre) the wings that flank the portico, and rusticated semicircular-headed windows, enriched balconettes, moulded window jambs, alto-relievo and festoon enrichments in the panels between the attic-pilasters, facing north and south. In the retaining walls of the portico steps are the entrances to the strangers' galleries, with couchant lions on pedestals. In the centre, projecting forward from the two flank elevations, facing north and south, are colonnades on the principal floor, and balconies on the first floor, with semicircular-headed windows, &c., in the recessed walls, the front surmounted with an attic; and at the extreme ends of the colonnades in the basement are entrances, those nearest the Spring-street front are for the officials of parliament, and those towards the library or east front are the speaker and president's private entrances, also members' entrances to the library and refreshment rooms. To the right and left are the flanks of the front and back wings, having rusticated semicircular-headed windows, enriched balconettes, moulded window jambs, panelled and enriched carved festoons between attic pilasters. The east elevation, or library front, is flanked at both ends with wings of a similar description to that flanking the present library, having, in place of windows in the attic, enriched festoons, with colonnades and balconies between the wings and library of a similar kind to those of the flank elevations, except that they are surmounted with balustrades. In the centre of the above elevation on the basement floor are the reporters' entrances. The stone most likely to be employed in the erection of the exterior façades will be colonial Mount Abrupt white sandstone.

### THE PULSOMETER, OR DIRECT-ACTING STEAM PUMP.

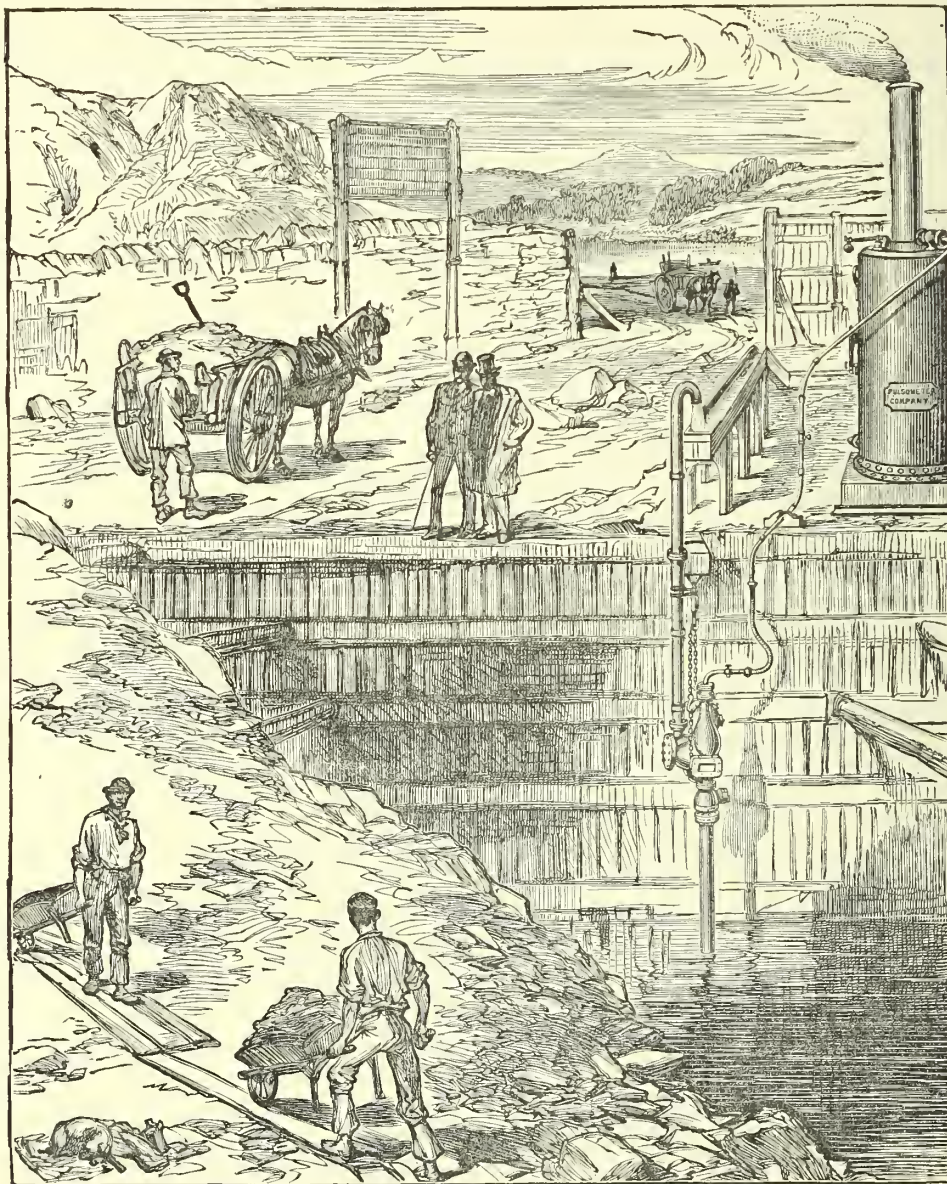
This pump, a patented invention, was introduced from America a few years since by Messrs. Hodgkin, Neuhaus, and Co., a firm whose name has been familiar to our readers through our advertising columns. From the very great success which has attended this pump, it need not be a matter of surprise that, in order to keep pace with the demand, the above-named firm have resolved themselves into a limited company, who manufacture in addition to the Pulsometers other contractors' plant. This company is known as "The Pulsometer Engineering Company,"

whatever except the valves, and these are so constructed that they will pass mud, sand, fine gravel, &c. To contractors it has been found especially serviceable; and a number of testimonials from engineers and others show the remarkable variety of work to which the Pulsometer has been most satisfactorily applied.

"Few people (says the *Machinery Review*) looking at a published section of the Pulsometer but will be impressed with the conviction that the inventor must have been a physiologist; and that, if from study of Nature and of the animal kingdom others have obtained ideas which, worked out by the engineer and the mechanic, have benefited the world, he from the structure of the human frame obtained an idea, which,

is suggestive alike in a mechanical and an industrial sense. The human frame should be fertile of other suggestions to the active mind of the inventive machinist; and the buyer of a machine which has originated in a knowledge of the human frame may fairly infer that it will possess a striking simplicity of construction and of working that should make it economical in cost and durability."

The stand of this company at the Paris Exhibition has met with well-merited attention. It is situated in the main machinery hall, and is built up with a façade and upper storey, this latter being set apart for different sizes of Pulsometers not at work, ranging from a capacity of 1,500 to 26,000 gallons per hour. This stand has been acknowledged to be one of the most attractive



and has its offices at Queen Victoria-street, where a pump may be seen in operation.

On account of its extreme simplicity it may really be looked upon as an elegant invention. Those who have tested its working must truthfully acknowledge its merits as claimed by the makers, viz., that it is "the best steam-pump in the world for raising liquids to heights of 90 ft. and under; occupies less space than any other pump; is cheaper than any other pump; never requires oil, tallow, or packing; will pump almost anything; needs no skilled attendance; requires no fixing; and can never be worn out, the few wearing parts being all replaceable." Surely a pump possessing such advantages should be invaluable in all parts of the world. It contains no working pieces

worked out in practical mechanics, has given us a pump without either slide-valves, eccentrics, cranks, or rods—nay, without cylinders, pistons, plungers, or stuffing-boxes. What but a knowledge of the construction of the marvellous piece of Nature's wondrous mechanism with which every one of us is endowed, and by which the vital fluid of our physical existence is pumped into vein and artery, could have suggested the Pulsometer? We are without any information on the subject, but from the very name given to the invention we infer that its history is as we have sketched it. A section of the Pulsometer has the appearance of the human heart inverted; its construction is as that two-ventricled organism with its valves and its inflow and outflow arteries. The conclusion

in this department. It is gratifying to find that the company have been awarded a silver medal in Class 54.

Our illustration will convey to our readers some idea of the way in which the Pulsometer can be applied, viz., in draining foundations, or other similar work of the contractor. We could mention several works at which the use of the Pulsometer would have saved some thousands of pounds in the item of pumping.

We do not think an apology is needed for occupying so much of our space in laying before our readers what we believe to be one of the most important discoveries of the age, and which we had the pleasure of seeing practically tested a few days ago at the foundations of Dr. Diamond's Bank near Trafalgar-square, London.

## THE ARTISANS' DWELLINGS ACT.

IN the Economic Science Section of the British Association, Sir James Watson read a paper entitled "How to meet the Requirements of Populations displaced by the Artisans' Dwellings Act." He said a sufficient answer had been given to this question by the proceedings which took place at Glasgow, whose corporation, under the name of City Improvement Trustees, had, under the powers given by an act of Parliament obtained in 1866, purchased large blocks of houses for the purpose of clearing them away. As soon as it became known that in consequence of this there would be a great demand for house accommodation, builders immediately commenced the erection of workmen's houses, and to such an extent that at December last, while not less than 31,057 persons had been displaced by the removal of old buildings during the ten years the improvement trust had been in operation, houses had been erected not only sufficient to accommodate those displaced, but greatly beyond it. The trustees were in no hurry in pulling down the houses they had purchased, and did not begin such operations for about two and a-half or three years from the commencement of their proceedings, so that sufficient time was given for the erection of new buildings. To meet the wants of the poorest classes, who could not afford to pay an increased rent, model lodging-houses had been erected, and for some years there had been in operation two houses for males, containing 300 beds each, and one house for females with 96 beds. The results, socially and financially, of the male houses had been of a nature to greatly encourage an extension of the system, and four other houses for males were in progress. When these were complete the trust would possess seven lodging-houses, with accommodation for 1,800 males and 96 females. Each lodger had a separate bed, for which the charge was 3½d. and 4½d. a night. Bath and sitting-rooms were provided, together with cooking apparatus, fire, and gas. A chaplain was attached to each house, and divine worship was performed every Sabbath; newspapers and a library were also provided. Commercially, the success had been very encouraging, 5½ per cent. per annum being realised on the capital. The estimated expense of the seven houses when finished was £80,000. The idea of erecting these was suggested to the improvement trustees by the success which had attended the erection of several model lodging-houses by a few philanthropic gentlemen who formed themselves into an association and raised the necessary funds by issuing 5 per cent. debenture bonds of £100 each. The result was that, owing to the improvement that had taken place in the value of the property, and the profits realised above the 5 per cent., property which cost £8,000 was now worth £18,000. The original contract stipulated that in the event of the association being dissolved, the balance should be handed over to the Royal Infirmary. This had been done, and the Infirmary having paid off the debenture, now found itself in possession of the handsome bequest of no less than £11,000. Such had been the result of the Glasgow Model Lodging-house Association, of which he had acted as chairman since its commencement, and he could not see any reason why a like measure of success should not attend similar institutions throughout the kingdom when prudently conducted. The paper was illustrated by a number of models and diagrams.

Mr. McKnight, of Edinburgh, said he was very gratified to find the success that had attended the experiments in Glasgow. In Edinburgh they had not been at all so fortunate. It was commenced earlier, and the corporation, having assessed the inhabitants, proceeded largely to pulling down houses, but they did not wait till accommodation was provided for those that were expelled. The consequence was very great distress, and a very large increase of population about the time greatly intensified the evil. He hoped

other towns would follow as much as possible the excellent example given by Glasgow.

Mr. George Hurst, Mayor of Bedford, referred to the necessity of finding accommodation for working men and their families. No doubt the Glasgow system was a step in the right direction, but it did not go far enough. He inquired what amount of ventilation was provided in the bed-rooms. He should like to see the question dealt with rather from a philanthropic than a commercial point of view.

Mr. Dawson said this subject had received great attention at the hands of the people of Dublin. Financially, the steps that had been taken to provide accommodation for the working classes of the city had been most successful. They had proceeded very cautiously. Although they had had for some years the advantages of the Artisans' Dwellings Act, they had allowed an Artisans' Dwellings Company to go before them, and to build blocks of houses. He was perfectly convinced, as they proceeded, cautiously taking down dilapidated blocks in proportion as the Artisans' Dwellings Company were building blocks to receive tenants, great good would be the result.

Sir James Watson, in reply, said 800 cubic feet were given to every person in every apartment, and thorough ventilation was provided. The reason they had not done anything with regard to families was, that they had provided for them, either by turning the large houses into small ones for families, or otherwise getting them into the houses that had been built. They had not found the accommodation for families at all demanded; at the same time he quite agreed the more they could do to bring people together in families the better. All cases of illness were immediately dealt with, and any case of infectious disease was at once removed to the hospital. Any improper characters were at once removed, and a detective was present every day to look after jail-birds.

## RIVER REGULATION IN IRELAND.\*

HYDRAULIC engineering seems to be awakening once more in Ireland, after a long period of slumbering inactivity as to all that concerns river improvement or arterial drainage. The commencement of this topic dates from the period of the great potato famine, when works of river improvement and of arterial drainage which had been, under many difficulties, long progressing towards completion, were, to pacify the outcry of some of the great landowners—who thought they foresaw in the then formidable circumstances of Ireland the impending confiscation of their estates—stopped by the Legislature, with an abruptness and absence of all previous forethought or preparation which, in many instances, resulted from the more or less complete destruction of the work thus abandoned. Large works for the relief and regulation of the River Suir are announced, and extensive contracts for executing these in accordance with the plans and specifications of Mr. J. Lynam, C.E., are already advertised. Had the works for the improvement of the River Shannon, authorised by the Legislature and partially executed under the Shannon Commissioners, been inaugurated and commenced with a clear view of the large proportions and collateral conditions which the main problem involved, the regulation of all the large affluents of the Shannon should have preceded that of the main river channel, and those works now proposed would have been executed many years ago; and as one result, some of the mistakes which have rendered the Shannon Commission a byword for a quarter of a century would probably have been avoided. The regulation of rivers, at least upon the scale on which these exist in the British Islands, rests upon principles sufficiently well understood, and in their application assured by long experience; but their successful employment needs certainty as to

the natural data involved. Were it practicable, it would be unprofitable to attempt to trace now in detail all the circumstances which conspired to render the labours of the Shannon Commission, and the works executed under its direction, as disappointing as they have proved; but it may not be wholly profitless to notice one or two of the more prominent of these circumstances. Two chief aims were had in view when the works for the improvement of the River Shannon were commenced, and after they had received the sanction of the Legislature—namely, the perfecting of the navigation of the river, and the relieving the ground adjacent to it from the floods to which the low-lying lands were subject, under conditions which, as they have been well described in our pages by Mr. Lynam, in his paper recently read before the British Association at Dublin, we need not here particularise further. Both these objects, especially the latter, have been only partially attained after the execution of works which have cost more than half a million sterling, and which it has been proposed yet to supplement by a nearly equal expenditure. The large sums already expended cannot be considered as wholly lost, for very important works in the removal of shoals, fishing and mill weirs, and other obstructions have been executed which must in any case have formed part of the complete regulation of the river. Still the greater or less annual floodings of wide tracts recur, and in times of high floods the navigation of the river in the neighbourhood of Killaloe is dangerous, even for barges of considerable size and towed by steamboats. Nor can this unsatisfactory result, so discreditable to our national boast of practical engineering success, be attributed to any recondite combination of natural conditions in the stream dealt with, for few rivers of equal size with the Shannon present these more favourably to the engineer. Its affluents enter the main stream pretty evenly along its course, which expand at intervals into broad lakes which everywhere have been recognised as the natural flood regulators of river courses. But if these natural expansions are to prove effective they must be sufficiently empty during the normal regime, that is, while the stream is low or at its mean height, to afford storage room for flood waters when these prevail, and to give time for their gradual efflux without overflowing the banks. It is mainly to the neglect of the natural conditions which belong to what ought to be the great regulating basin of Lough Derg, that the abortive character of the Shannon Commissioners' works must be attributed. A reservoir which is always full cannot play the part of a regulator, and, however vast its surface area, if a rise in its level of a very few inches causes it to overflow its banks, it is practically useless as a reservoir. This seems to be the very simple explanation of the master evil which has caused the partial failure of the works executed upon the River Shannon. As to remedy, we entirely concur in the views of Mr. Lynam and others less intimately acquainted with the local conditions, that the normal level of the water surface of Lough Derg should be lowered by at least 3 ft., so as to afford space for the accumulation of flood waters, and that every obstruction to the rapid but regulated efflux of such waters down stream should be removed by the demolition of the permanent weir at Killaloe, together with such shoals as it may have produced, and the construction in lieu thereof of a regulating weir, in principle like some one or other of the *barrages mobiles*, which have been adopted with success upon certain of the large rivers of France. Whether the details of construction should be those adopted upon the rivers Seine and Marne, or some modification of these, need not be here discussed, further than to say that it will be safer and better to follow as far as possible designs carefully considered and matured by the river engineers of France—who, it may be safely said, rank among the most competent in the world—and sanctioned by the administration of the Ponts et Chau-

\* From the Engineer.

sees and by successful experience, than to resort to some one or other of the new-fangled schemes which always crop up in abundance when the chances of engineering employment offer.

If our information be correct that the proposal to construct a *barrage mobile* at Killaloe, by whomsoever originated, did not originate with the Board of Public Works in Dublin, and has been from the outset viewed unfavourably, and opposed by its present engineers, but little encouragement is afforded us to hope for an impartial and well-based decision if it is to rest with that body. It may have been officially convenient to send two gentlemen on a tour of the Seine to report upon the movable *barrages* established on that river, but what information could have been expected from a report by these gentlemen that was not already fully supplied to engineers and the public by the publications of the administration of the Ponts et Chaussées, in its "Annales," and those in the "Annales des Mines," in which, as well as in our own pages, the amplest details have been given of the different forms of movable weirs adopted in France. We are not aware of anything in the professional antecedents of either gentleman that could warrant his opinion being received as of equal authority with that of the men who conceived and executed the French weirs. If a new era of work and expenditure is to be inaugurated to complete the regulation of the Shannon, left abortive and incomplete by the commissioners, under the management of the Board of Public Works and its numerous *employés*, it is earnestly to be hoped that the management of these future works should not be entrusted to that anomalous and, as events proved, incompetent body which sits in the Custom House at Dublin.

We have not space to trace here with the requisite detail the causes and circumstances which led to the failure of the original Shannon Commission, to elucidate which would involve to a considerable extent a history of the Board of Public Works in Ireland. It would be an instructive history, however, which would show that the Shannon misfortunes were traceable chiefly to its mismanagement. It early appointed as engineer, no doubt through political or other patronage, Mr. Thomas Rhodes, originally a working millwright of the old school, and who had been for some years an assistant to Telford as executive engineer on his great works of the Caledonian Canal, the Highland roads and bridges, and those of Conway and the Menai Straits. We are not aware that Mr. Rhodes had ever been connected with any great river improvements, and certainly, neither by natural genius nor education, was he fitted to undertake the supreme engineering problems of the Shannon. But he was an able practical man in his way, and his bridges—six or seven in number—over the Shannon, attest his constructive ability. The Board of Works, presided over then as now, by a royal, or military engineer, did not comprise any one member whose opinion in reference to the great river could command unhesitating respect and assent. Still there was plenty of meddling and officious interference on the part of some ambitious of scrambling up to engineering reputation and the chairs of commissioners. Hence Mr. Rhodes' intentions and designs were often debated and sought to be traversed. Bickerings were frequent, and after a time he found himself no longer the engineering arbiter of a great engineering enterprise, but mainly the executive officer of an anomalous board, to whom his practical skill and experience rendered him indispensable. To this want of a single head and governing intellect much of what has been done amiss, or has been left undone, up to the stoppage of the Shannon works, is justly to be ascribed. In the multitude of counsellors there is safety, says Solomon, but the safety is to the counsellors themselves, rather than to those who employ them, for when things are found to have gone wrong there is no one to be found on whom the blame can be laid. When Nestor, the

Homeric type of prudence and foresight, is advising the Greeks assembled before Troy upon the conduct of an expedition about to be sent forth, the most prominent point which he suggests is, that there should be some one leader entrusted with the supreme command. The advice is as sound in its practical wisdom to-day as it was 3,000 years ago. It is to be hoped, rather than expected, that it may be acted upon if the works of the Shannon are to be resumed and completed; and that, whoever is selected as best fitted in all respects for chief command, the Board of Public Works—which, whatever was its position thirty years ago, has not been exalted in public estimation since—may not be allowed to have any part in the matter.

#### DEATH OF SIR R. GRIFFITH, BART., C.E.

WE have to add to the roll of eminent men who have departed from amongst us the name of the venerable Sir Richard Griffith, Bart., which for more than one generation has filled a distinguished place in the social history of Ireland. He died at his house, No. 2 Fitzwilliam-place, at eleven o'clock on Sunday night, at the advanced age of 94 years, having been born in Hume-street, in this city, on the 27th of September, 1784. He was descended (says the *Express*) from a collateral branch of a Welsh family of distinction which came over to this country at the commencement of the 17th century, and had estates in the counties of Monaghan, Sligo, and Kilkenny. His grandfather, after the bulk of the property had lapsed through failure of issue, disposed of the rest of the Kilkenny estate, and settled at Mellicent, in the county Kildare, and having married a kinswoman—Miss Elizabeth Griffith, of Glamorganshire—had issue Mr. Richard Griffith, the father of the deceased. At an early period he obtained a writership in the East India Company, and on his return to Ireland, in 1774, he married a lady connected with the Yorke family, in Northamptonshire, and subsequently a daughter of Hussy Burgh, Lord Chief Baron of the Irish Court of Exchequer, who was distinguished as an orator and poet, as well as for his judicial attainments. He was an influential member of the Irish House of Commons, and was one of the pioneers of agricultural improvement in Ireland, having taken an active interest in husbandry, and introduced machinery and rotation of crops. His son, the deceased, was educated in the best establishments which this city then possessed, and from the year 1797 his studies proceeded under the Rev. Mr. Moore, of Donnybrook. He was instructed in mathematics and fortification, with a view to obtaining a commission in the Irish Artillery. He succeeded in this object, and acquired such a competent knowledge that when the artillery became merged in that of England, after the Act of Union had broken up the separate establishments of the two countries, he was paid the compliment of being one of two officers who were allowed to join the British forces. His father, however, conceived that a better prospect was open to him if he applied his attention to civil engineering, and accordingly, declining the offer, he took up the study of mines and other branches of the profession, and worked at these with great diligence and perseverance. He went to Cornwall, where he had the good fortune to obtain an early reputation by discovering at the Dalcouth mine rich ores of nickel and cobalt, which had been previously rejected as of no value. Lord Dunstanville, the owner, was so delighted at the discovery that he proposed to make Lieutenant Griffith general manager and superintendent, but he preferred to extend the range of his studies and went through the mining districts of Derbyshire, Yorkshire, and Northumberland. He carried the pursuit of practical knowledge into Scotland, and in Edinburgh received instruction from such eminent men as Sir John Hall, Professors Playfair, Jameson, Hope, and others, and he was held in such high estimation that at the early age of 23 he was unanimously elected a Fellow of the Royal Society of Edinburgh. In 1808 he returned to Ireland, and began his professional career with the publication of a work under the auspices of the Royal Dublin Society, the subject of which was a geological and mining examination of the Leinster coal district, which was completed in 1814. His first public appointment was in 1809, when he was selected by the Commission appointed to inquire into the practicability of draining and improving the bogs of Ireland, to be one of their engineers. In 1812 his surveys and reports were published by authority of Parliament. At the same time he was appointed to succeed the late eminent chemist and mineralogist, Richard

Kirwan, as Inspector-General of his Majesty's Royal Mines in Ireland. After the famine in the South of Ireland in 1822 he was employed by the then Lord Lieutenant, the Marquis Wellesley, to improve and construct the roads in the counties of Cork, Kerry, and Limerick, and this work proved one of sufficient importance to give some celebrity to his name, even if he had done nothing more. He made 250 miles of new roads through mountainous districts, which had previously been the resort of Whiteboys, who were not amenable to British law, and were safe in their inaccessible strongholds. Before the Ordnance Survey, with whose great advantages we are now familiar, was established, he was appointed General Boundary Surveyor, and from the year 1815 he set about one of the most valuable works with which his name is identified, namely, the publication of the Geological Map of Ireland. He bestowed great care upon the preparation and revision of this, and throughout his life never lost his interest in it. Four editions were published—the first in 1815 and the last in 1855. In 1828 he was appointed Commissioner for the General Survey and Valuation of Rateable Property, while his services were used by the Government in various other commissions, notably the Shannon Commission, and the country in various places contains memorials of his engineering ability. One of them is to be seen in our own city in the esplanade which stands in front of the Royal Barracks. Many citizens will remember that the course of the Liffey was changed at this point under his direction, and a group of old dilapidated houses, nests of vice and fever, were swept away. In 1848, after the great famine, he was appointed Deputy Chairman of the Board of Works, and in 1854, on the outbreak of the Crimean war, when Sir Harry D. Jones, the then chairman, was ordered off with his regiment, he succeeded to the office, which he held to the period of his death, though relieved of its active duties. In 1855, on the completion of his geological map, the rare compliment was paid to him of conferring upon him through the hands of Professor Forbes, the Williamston Palladium Medal, and in 1858 he received from her Majesty the honour of a baronetcy, in acknowledgment of his long and valuable public services.

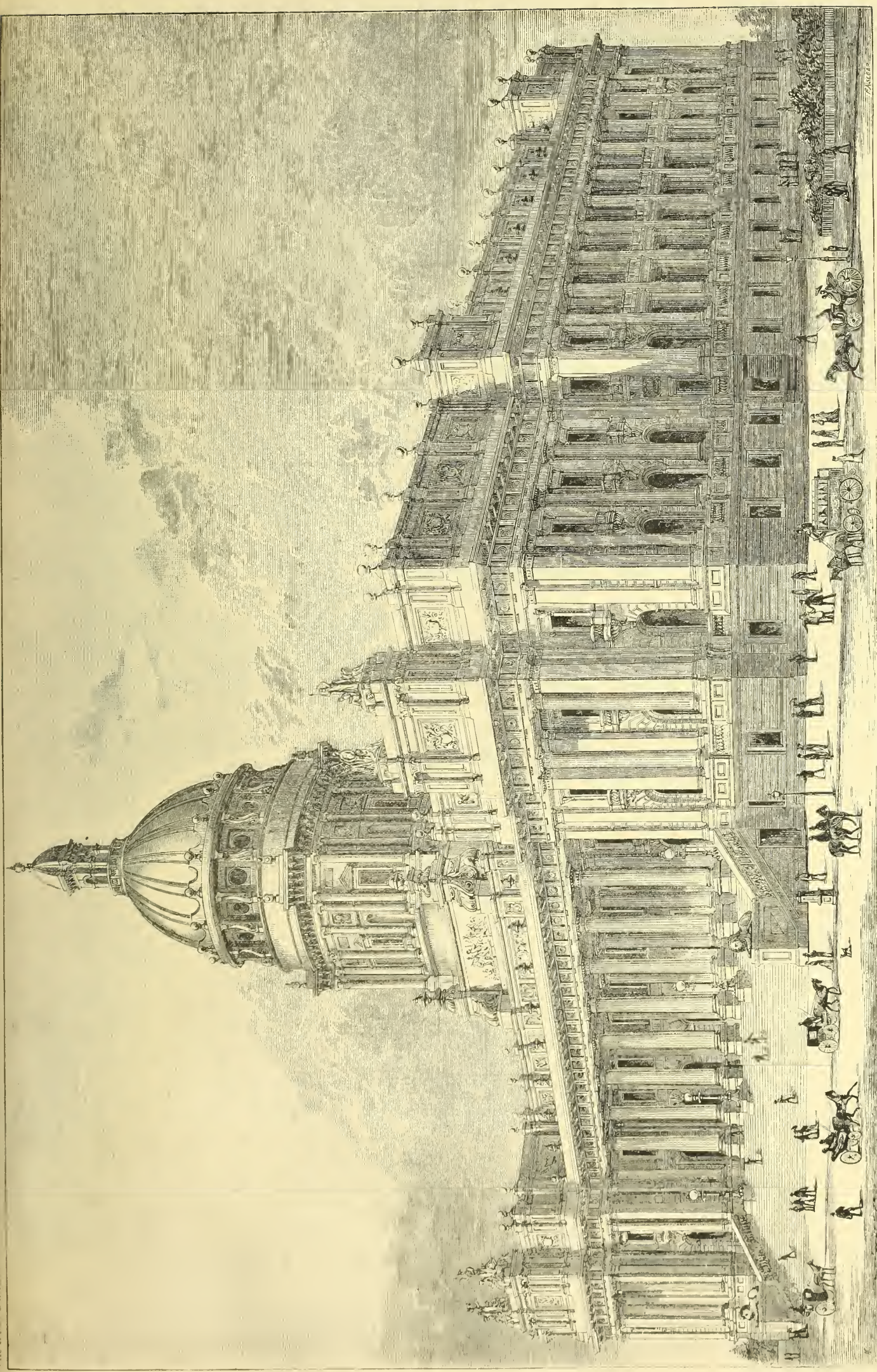
#### THE IMPORTANCE TO ARTISANS OF ACQUIRING A KNOWLEDGE OF DRAWING.\*

(Continued from page 265.)

THE great exhibitions of manufactures in London and Dublin served to illustrate the deficiency of these kingdoms in ornamental design. In strength of material and construction our works were unrivalled, but in gracefulness of form could ill cope with Continental neighbours. Many beautiful ideas were observable, but the carrying of them out was lamentably imperfect.

It is a fact that only those are aware of who have carefully watched the movements resulting from the great exhibitions of the works of all nations in 1851 and 1853, and noted the manifestations arising from them in all their phases, that they who have been most largely dependent on foreign talent for designs as applied to their productions, have been amongst that section of society who could not see any good resulting from the establishment of technical classes or schools of design,—not that their murmurings ever reached the point of actual opposition, but, sheltering themselves under innuendo, they dealt largely in all sorts of side winds and lefthanded helps, damning with faint praise. The secret of this, however, lay in the fact that the source of their artistic inspirations would stand revealed, and it would become known to the world that the tradesmen of these kingdoms, with all their energy and industry, had not yet a sufficient perception of their own interests to teach their children to draw, or to encourage those who had been taught, and thought it better to go to Paris and pay sixty or eighty shillings for a design than spend five at home to help to educate their own countrymen. Further, that even when they were educated they had failed to reward them either by money or appreciation, for manufacturers imagined that schools of design would enable them to obtain lower prices and better work than formerly, for-

\* Substance of a lecture delivered in the Dublin Mechanics Institute, Dublin, on the 30th October, 1854, by John S. Sloane C.E., architect, &c.



DESIGN FOR THE HOUSES OF PARLIAMENT.  
MELBOURNE.



getting that the real intention should be to produce excellence as the cheapest article in the end, and at the same time diffuse such a knowledge of art as might enable the consumer to appreciate the work of the producer. But in their schools of design they began at the wrong end; they attempted to make persons design before they knew how to draw, and what is the consequence? There is a continual cry out for the something new of which we hear so much and see so little! The manufacturer calls out for some novelty—something different from what has been seen before; and how is the pupil taught to prepare it? We might as well attempt to teach poetry, to form an epic poem or essay, by shaking a quantity of words in a box after the manner of dice, or as we produce new forms in a kaleidoscope. Teach the man to draw, call the school you teach him in what you will—"What's in a name?"—and design will come by Nature, as it only can come. In the preparation of a funeral car for a certain great man some time ago the nation at large had a rather severe lesson\* in the humiliating ignorance shewn in the harmony of either form or colour.

There is another phase of the subject which will, I trust, shew you the great necessity that exists for a diffusion of the knowledge of drawing amongst the people. It is this: When a workman has designed something really original, so depraved are the masses that the manufacturer or retailer will endeavour to foist the article on the public as a foreign production. This could not occur if the people's eye was educated; if every tradesman understood the rules of drawing he could not thus be imposed on; he would not labour under the double disadvantage of first having his talent denied, or, when his proved skill had overcome the prejudices against him, seeing the credit taken from him and given to his more fortunate foreign rival.

I have endeavoured to shew that we have naturally the power to draw; but, unfortunately, having the power does not prove that we always use it, but simply how much more we could do if we tried, and if we only went the right way about it. The English nation wanted a hobby, and the schools of design were instituted, little caring at which end the instruction began, and it is hard to say with what result. We all know that, according to Shakspeare—

"New customs, though they be never so ridiculous,  
Nay, let them be unmanly, yet are followed."

If the people of this country—and when I say people I of course refer particularly to the working classes—would devote their spare time to the cultivation of drawing in connection with their trades, they would serve their country far better than in practising oratory or some other of the means by which so-called patriots affect to "split the ears of the groundlings," and make themselves the tools of crafty statesmen.

We have often seen a tradesman scanning a piece of apparently very nice work, but, finding its defects hidden by ornament, passing on with an exclamation of pitying contempt of "Oh, that's French. It is very nice in its way. The French are great people for ornament, but it won't last!"

Again, on the other hand, the too great predominance of strength and paucity of ornament generally mark the productions of England. Now, why not let the union of sufficient strength with judicious ornament be the characteristic of Irish ornament? It is one of the means the patriot has at his disposal for benefiting and advancing his country, without being deterred by the great bug-bear Capital. He requires no capital but his brains; and I believe an Irishman is not deficient in that physical provision: he has the talent naturally. It is his interest to advance the manufactures of his country; in doing so lies a great source of pleasure. Drawing, apart from technicalities or rules, enables us to represent the passions and affections, to familiarise ourselves with the

most beautiful and graceful objects, and affords at all times a most agreeable recreation.

"The poet dreams; the shadow flies,  
And fainting fast its image dies!  
But lo! the painter's magic force  
Arrests the phantom's fleeting course!  
It lives—it lives!—the canvas glows,  
And tinctured vigour o'er it flows.  
The Bard beholds the work achieved;  
And, as he sees the shadow rise  
Sublime before his wond'ring eyes,  
Starts at the image his own mind conceived!"

There is a word in the English language the unconsidered use of which occasionally does mischief,—that word is "taste." From the cradle to the grave it is always occurring when least required. From the time that the infant hope of the family is first able to lisp, its anxious relatives are puzzling their brains to detect signs by which to know the *taste* of the genius—"The rose and expectancy of this fair state." If the child has an inclination for drawing sufficiently apparent, then perhaps in course of time he will be placed in the way of getting some instruction; but the question must be solved first. Now, did any of us ever know of a child exhibiting a taste for reading or writing, or did we ever hear of a parent who before sending a child to school hesitated to do so because it had not shewn any *taste* for the mysteries of the alphabet? Are we to suppose that it is easier for a child to learn to write than learn to draw? Certainly not. Did we ever know of a child who naturally with the end of a burnt stick attempted to make the letters of our alphabet or of any alphabet? yet we send children to learn that which they can have no natural taste for. Why don't we send them to be made to learn to draw? A man who had arrived at the age of 30, and who had not learned to write, would scarcely think of attempting it; but there are many instances of men learning to draw and becoming good mechanical draughtsmen after that age. Is not this a proof of the greater ease with which drawing can be learned than reading or writing? I think I may safely assert that there is no family who has not had at some time some member or members who exhibited a taste for art and a wish to improve the faculty, and who reflected the dawning desire more than others.

I will now say a few words on Design, for the purpose of bringing before your minds the subject as it is spoken of by the generality of people who have given it consideration. I am in a position to hear the opinions of various persons on the matter, and have no hesitation in giving them to you; and, to begin, let me ask are all our designs mere copies? or are we so utterly without talent in this direction that we cannot select for ourselves a really good production which can claim a truly Irish source? Supposing that we admit that all the beautiful designs we daily see around us are wrought out by the talents of French or German artists, it only proves that we depend on others for what we should seek in ourselves, not to the exclusion of the talent of any country, for art belongs to all; and it is because it belongs to us as much as to others\* that it is essential that we should endeavour to have our part in it, for it should be remembered that every nation has its peculiar wants—intellectual, social, domestic, and physical. The capacities of a people, their tendencies and method of intercourse, their habits and manners, and modes of dress suited to their climate, are, or ought, all to be considered in their arts and manufactures,—the latter supply their wants, the former add embellishments, and the two ought to become alike in spirit and in fact. The manners, customs, and social habits of a people like the Irish are suited to the development of art in the highest degree; but the question is one of appreciation and application—the one can only grow out of the other; and I am sorry to say that it is but lately as a people, and in its public application

\* Since this lecture was delivered, Ireland has advanced in design with giant strides. We cannot say as much for technical education. The Irish tradesmen appear very slow in helping themselves by forming evening classes for this purpose.

that we have given the matter the consideration that such a question deserves; but the great mass of our mechanics have yet to learn what art in the highest acceptance of the term means. As to ornament, so little has been settled on that subject that everything seems understood but the truth. Ask our artists what it is. One will tell you "the appropriate embellishment of a building or its furniture;" another that it is the sublime in history carried into our domestic requirements; whilst another, not less serious, declares that that is the profanation of all the principles of art. The first would show the uses of a building by pictures illustrative of its purpose, and would carry this mode of ornament into all minor articles of utility, he would decorate a tea service with the tea plant, and a bread plate with ears of wheat, and thus make each article by ornament a sort of domestic enigma. The second would decorate every building with cartoons of historic interest, so that between these two we should either make our houses and furniture partakers of ornament of an historical nature, or call into play the whole field of natural objects; and thus it appears that they who should lead our minds in the right direction as to design, whose business it is, or ought to be, to do this for us, do not well understand what is required of them, and still less are they agreed as to the manner in which it is to be done. To copy Nature in detail and spread it over surfaces to be ornamented, is one man's theory to set Nature aside, and take wholly to the antique, is another's; whilst amid all this confusion the art-educated foreigner is coolly pocketing the reward of his better knowledge, and the manufacturer, seeing how "Doctors differ," decides for himself in the belief that our artists know nothing about the matter, nor ever will. Ask him to go to the schools of design and he replies To what good will it tend? He wants, rather unreasonably, to see results arise at once. He wants designs before the rudiments of drawing have had time to be acquired, but he also wants, and not without reason, that something like an advance in the right direction should be made. He has no belief in sketchy landscapes, nicely stippled, lady-like flowers, surrounded by gold marginal lines, nor in models of impossible castings. He thinks rightly that a small amount of geometry with a knowledge of linear drawing and projection, an accurate acquaintance with the orders of architecture, and certain trade rules and workshop methods by which the designs or plans or drawings of inventions would be rendered so as to be practically effective, and of use to the manufacturer. He does not care for the hackneyed twaddle of your small Raffaels or would-be Michael Angelos, but wishes to see his way to good practical results, and, not obtaining these at home, he goes abroad to seek them.

The art teacher has also much to learn. If he does not maintain the dignity of his station, he will be confounded (especially by working men) with the mere drawing master, whose object is to shew his pupils how to make pretty little landscapes, with tinted papers, Poonah brushes, stencils and black lead, and other abominations at so much per quarter, producing *nice* drawings, but no draftsmen, the desire being that Tom, Dick, or Harry, may go home at the holidays with well-filled portfolios for the gratification of anxious parents. But the art teacher should eschew all this, so far as his province is a public school, and should combine the necessary qualifications for instructing all that would come before him, regulating his teaching by the requirements of his pupils, based on the broad principles necessary to all drawing, whether it be for the building trades, the fictile manufactures, or the productions of the loom. My own opinion holds to a thorough grounding in practical geometry along with the free use of the lump of chalk and black board, the stick of charcoal, and cartridge paper. This is the "large hand" of art that I would insist on all as a commencement. The fine "Italian writing" would follow, and then, and not till then, let

\* The funeral car for the Duke of Wellington.

he or she attempt design, and the production of beautiful forms, whether in the scroll of a staircase handrail, a piece of lace for a princess, or the bordering of a china plate,—there is nothing too low for art to improve, there is nothing too high for art to beautify. One can tell a workman by the handle of his chisel or hammer, or by the finish of his favourite tools, as easily as a lady by her dress—in each the art instinct is apparent, and will not be repressed even though wanting in education.

And now, in conclusion, should there be any here who from force of circumstances cannot attend a school or class, let him take home with him this gratuitous lesson, viz., procure a piece of chalk, or a pennyworth of willow charcoal, or a slate and slate pencil, or the cheapest carpenter's pencil (the latter and the charcoal are for use on the coarsest cartridge or sketching paper),—with any of these let him or her at their leisure endeavour carefully and with fixed purpose to produce a drawing of some domestic article, be it a candlestick, lamp, chair, table, or in fact anything of that sort available. Keeping the eye well placed so as to embrace the example or pattern from one fixed point, and with perseverance there is no doubt of success as to freehand. For geometric drawing, the Principles of Geometry published by the Commissioners of National Education can be had for a few pence, and their diagrams afford most simple patterns; whilst for architecture, the elements of that art by the Rev. J. W. McGauley is open to all, even those of the most limited means, and once having established a firm hold of the rudiments, it will go hard indeed with the earnest, aspiring beginner if he cannot find instruction to meet his growing necessities.

### THE RAINFALL OF IRELAND.

MR. G. J. Symons, F.R.S., read a paper in the Mechanical Science Section of the British Association on "The Rainfall of Ireland," in which he mentioned as a remarkable fact that the Irish hills do not exhaust rain clouds, as the English hills do. With the exception of a dry central area around Dublin, the rainfall all over Ireland may be taken to be the same. At present, instead of the greatest rainfall being in the south-west, or in Galway, we have the wettest spot of all (with one exception) in the south of the County Down, the very place which, theoretically, might be expected to be almost the driest part of Ireland. That shows that it is really a question more of the elevation of hills than of geographical position. He exhibited a map showing the number of rain stations established for the observation of the rainfall. He had succeeded, since the meeting of the Association in Belfast, in obtaining the services of a large number of gentlemen volunteers throughout Ireland, who had taken charge of the rain-gauges supplied to them, and had engaged to register their observations. There were still large districts, however, in which he had not been able to establish rain-gauges, and the observations were, therefore, necessarily defective as to the average rainfall. There was a large district in the neighbourhood of Longford without a single station. The same could be said of other districts, where it was essential that observations should be taken. If he could induce some gentlemen having property in these neighbourhoods to take charge of rain-gauges, Ireland, instead of having to depend upon ten stations, as it did not many years ago, would be fairly represented both geographically and physically.

The President said the thanks not only of the Section but of the whole people of Ireland were due to Mr. Symons for bringing this question of the rainfall more nearly home to them.

Mr. Lynam suggested that if some of the head constables of police, who were men of great activity and intelligence were asked,

they would be very glad to keep a rain-gauge, and would keep it with care and accuracy.

Professor Hennessy intimated that he had long ago come to the conclusion that the distribution of rain over Ireland would be partly governed by the coast-line and partly by the elevation of the ground. He spoke warmly of the labours of Mr. Symons, and hoped he would be backed up in any grant he might require to complete the observations.

Dr. John Roche said in his experience the rainfall depended upon the quantity of trees in a country more than anything else, and he suggested that in future maps the extent of forestry in a district should be taken into consideration.

Mr. Price asked what was the actual average of the rainfall in Ireland as compared with that of England and Scotland? In a former publication of Mr. Symons the average at that time was given as in England, 29.84 inches; Scotland, 35.98; Ireland, 33.99; average of the United Kingdom, 33.27.

Mr. Symons said it was exceedingly difficult to get the average when they did not know what was occurring in large districts; but he was inclined to think that Ireland did occupy an intermediate position between England and Scotland. Ireland had the reputation of being a wet country, and, no doubt, as regards drizzling, uncomfortable rain, that was perfectly true; but as for downpours of 6 in. a-day, there were no traces of anything of the kind, except at two very remote stations. He mentioned that an attempt to get rain-gauges kept by the Constabulary had failed, but he did not see why the resident gentry and clergy of Ireland should not take charge of them as well as they did in England.

The President, in closing the discussion, expressed a hope that the gentlemen of Ireland would fall in with the suggestion.

### THE DISCHARGE OF SEWAGE INTO TIDAL ESTUARIES.

THE following is a short summary of a paper read by Mr. H. Law, with a discussion thereon, in the Mechanical Science Section of the late meeting of the British Association in Dublin.

He commenced by saying it was a subject of particular interest to Dublin, and it was the more desirable that the question should be discussed, because it was one on which great confusion appeared to exist. He quoted the results of elaborate investigations into the proportion in which sewage matter was found in the water of the Thames, from which it appeared that sea-water formed 98.91, river water 1.02, and sewage only .07. It was obvious that considerable care should be taken in the selection of the points of discharge of sewage into tidal waters, and as to the time and conditions of this discharge, one of the most essential conditions being that the sewage should be so discharged as to be carried into the main stream and become mingled with the bulk of water travelling with sufficient velocity to ensure that there should be no deposit of contaminating matter. Again, the point of discharge should be a place where the course of the stream should be direct and not subject to eddies, in order to prevent any deposit on the foreshore. Where populous places existed on the banks of the river it was of course necessary to ensure that no sensible pollution of the river should be suffered in the neighbourhood of those populous places.

Sir John Hawkshaw said the paper illustrated the disadvantage of generalising so much. They who lived in the neighbourhood of London and were in the habit of hearing all sorts of amateur opinions as to the pollution of the Thames should be very gratified to hear those statements practically tested, as they had been by Mr. Law.

Dr. Roche expressed his gratification that the paper had shown that sewage matter was

not cumulative. In rivers such as the Liffey all that was required was to discharge sewage under water, so as to be prevented from exhaling, and within half an hour it should be decomposed into its elements and could not further injure health.

The President asked Mr. Stoney to favour the section with his views upon the subject.

Mr. Stoney said there were so many different opinions upon the subject that it might be debated all night without coming to a conclusion. He thought the only remedy for it was intercepting sewers. In the meantime, the only thing was to cast the sewage into the sea as far from the centres of population as possible.

Mr. Parke Neville said Sir Joseph Bazalgette and himself, some years ago, came to the resolution that the best plan was to carry the sewage into the sea where it could not return, but the scheme unfortunately lay in abeyance.

Mr. Price said he was one of the three engineers who were asked to report upon the subject three years ago to the Corporation. They investigated all the plans submitted to the Corporation for the purification of the Liffey, and having regard to the very large outlay, which the citizens were unwilling to make in order to carry out Mr. Neville's plan of taking the sewage out to sea, they modified the plan in a way which very much reduced the expenditure. They proposed to let it out inside the port and not outside, having come to the conclusion that if the sewage was let out about half-way between the end of the North-wall and the Poolbeg Lighthouse at the hours of low water, it would be carried completely clear of the port and would not return on the next tide. The idea of making two separate intersecting sewers, one for the south and one for the north, reduced the estimated cost from about £700,000 to £200,000, and they still believed that if the sewage of Dublin was treated in that way it would be a good piece of work at a moderate price.

The President asked what was the rateable value of the district that would be taxed for the work?

Mr. Neville said it was between £600,000 and £700,000, but this was upon a valuation which was totally erroneous. He explained that the estimate of £700,000 was caused by the prices of materials having doubled at the time it was advertised, but the original estimate was £350,000, and it could even now be carried out for £450,000.

After some further discussion,

Mr. Law, in replying, said the figures that he had given, and the deductions he had drawn, applied only to the conditions there stated. They must not therefore rush to the conclusion that because the sewage of London could be discharged into the River Thames at a point about 14 miles below the city without doing mischief, they could therefore throw the sewage of Dublin into the Liffey. He should be very sorry to convey an impression like that, because the proportions of the two rivers were so totally different that such an inference could not be correctly drawn. To establish any proportion, intercepting sewers should be constructed, and the sewage taken to such a point as would insure its dilution and prevent the possibility of any pollution arising therefrom.

The *Scientific American* says:—American cutlery now goes largely to Australia, South America, and Europe. We are pushing England also in pocket cutlery. Of the two million dollars' worth of pocket knives sold here every year England supplies only one million dollars' worth, while not many years ago nobody would look at anything but an English knife. The extent to which machinery has been made to take the place of manual labour is the great secret of our success in the manufacture of cutlery. The cutting of wood for the handles, the finishing of the ivory, the cutting of the steel, the shaping of the knife, the fastening of the handle, the designing of the ornamental handles, the grinding, the finishing of the blade, and numerous other minutiae, are all done by machinery, most of which is also made in the works.

### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE Secretaries of the Institute, says the *Builder*, are very properly stirring up the members and others to provide papers and matters of architectural interest, to be read during the session of 1878-9. They ask for suggestions of subjects for discussion, and any particular questions members would like to ventilate or examine. Each contributor of a sessional paper is allowed two page illustrations, but a larger number of illustrations are allowed at the contributor's cost. We would like to see the members of our dead-and-alive Irish Institute making a move. Would that the power that "the giftie [sometimes] gie us," would infuse a soul under the very ribs of death in Dublin architectural circles, and waken up to consciousness our somnolent architects to a sense of their position to do something for the credit of their profession and their country.

### COMMISSION OF ENQUIRY INTO MUNICIPAL BOUNDARIES.

THE commission appointed in 1876 to enquire into the subject of the Local Government of Towns, &c., having reported as their opinion that the boundaries generally were in an unsatisfactory condition, requiring a thorough and careful revision, we are happy to be in a position to state that the Government are about to take active steps in the matter, and that a committee is all but appointed of three gentlemen—namely, C. P. Cotton, Esq., C.E., M.R.I.A., &c.; W. P. O'Brien, Esq., L. G. Dept.; and Mr. Exham, Q.C., &c.—to enquire into the areas of the several wards, and take all necessary steps for amendment.

That the boundaries existing should be unsatisfactory, must at once strike anyone giving the matter a thought. It is now forty-one years since their arrangement was made under the then Viceroy, Lord Normanby, and the Under-Secretary, Thomas Drummond, Esq.; and it would be difficult to conceive the formation of a staff more unfitted for its purpose than that to which such a purely local business was entrusted. The number of boroughs and towns corporate reported on was 67, and the staff of examiners was 17, viz., Captain Harry D. Jones, W. M. Gossett, F. W. Whinyates, Alex. W. Robe, R. C. Alderson, H. R. Braudreth; Lieutenants H. P. Wulf, J. Hawkshaw, G. Hotham, H. Pooley, T. A. Larcom, T. R. Mould, J. Lynn, and William Stace—all Royal Engineers. Of civilians there were only three—James Vetch, J. P. Kennedy, and James Butler Williams, Esqrs. We would be sorry to hint at any jobbery, but our intimate acquaintance with the professional matters of Ireland leads us to conclude that such a work could easily have been placed in better hands than those of a committee the majority of whom were officers of the army; nor could the results be at all surprising, or otherwise than unsatisfactory. It is not our province to point out any particular locality of the 67 boroughs that were at that time divided into wards; much will, of course, come out in the necessary inquiries which the commissioners will make; but we have no hesitation in raising our voice against the employment of the soldiery to do the work of professional civilians, as was the case in 1836, when the instructions were issued to the gentlemen we have named from Dublin Castle—a precedent still followed by the preparation of maps for the Landed Estates Court, and in many other ways detrimental to the profession. In appointing Mr. Cotton and his two most competent coadjutors the Government will shew that they are in earnest in the

work, and that in the hands of Irish gentlemen the matter is certain to receive an amount of attention that could not be expected from such a staff as that of 1836.

Irishmen are all but too familiar with the changes wrought in their country during the past half-century, and the extraordinary revolution in everything that could affect the municipalities—famine, emigration, and the Encumbered Estates Court, have each in their way left their mark behind; and these, with improved systems of letting and farming, increase of a wealthier population, and of a better description of building—all call for a revision, which we hope to see carried out favourably by the promising auspices of those whose names we have been enabled at this early date to lay before our readers.

### CHRIST CHURCH, CORK.

THIS church, which had been closed for some months during the erection of a chancel and the making of important internal changes, was reopened on the 22nd ult. Christ Church is a type of edifice which has long since ceased to be erected. Some of the finest of the old churches of London were of the same Classic character, and designed by Sir Christopher Wren, but we believe none of them can excel Christ Church in the simple beauty of its proportions. Previous to the present alterations the organ and choir were arranged in the west gallery, and the pulpit, with its large parabolic sounding-board suspended over it, stood high in the centre of the east end. In former times this was the common arrangement throughout the United Kingdom—the clerk's desk, the reading-desk, and then the pulpit, all rising like a three-decker to command the congregation. This arrangement has fallen out of use in modern ecclesiastical architecture, and in the remodelling and improving of Christ Church it has ceased to be. A beautiful apse now swells out beyond the east wall. A new organ fills the east bay at the north side, and in front of it are disposed handsome chair seats. These are ranged at each side of the centre passage, which has been laid with encaustic tiles. The decorations are simple but effective, especially those of the chancel roof. The old pulpit still remains in use, but a memorial pulpit will likely be erected to the memory of a late esteemed rector. Among the other alterations in the church we may mention that the corporation pew has been removed from the north to the west gallery, the site of the old organ. The gallery fronts have been removed and substituted by a light railing. The whole interior has been painted, and altogether the improvements are of a most satisfactory character, and impart quite a new appearance to this old edifice. The works have been carried out by Mr. Barry M'Mullen, contractor, under the direction of Mr. W. Hill, architect.

### CORRESPONDENCE.

#### THE CHRIST CHURCH MONUMENTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Those curious and disappointed inquirers (and their name is legion) as to what became of the numerous fine monuments which adorned old Christ Church, are referred to a letter appearing in last week's *Athenaeum*,\* in which an enterprising lover of art gives an interesting narrative of his exploring expedition to the "regions below," in search of the aforesaid monuments. I have even heard inquiries made by near-sighted visitors to the "restored" church as to what has become of the Kildare Monument, considered by many the chief ornament of the old church, in which it occupied a position worthy of its great merit. Those near-sighted individuals are informed that if the day happens to be a bright one, with the sun shining, they may discover that fine work of art in a dark corner of the north transept, but unless previously familiar with its beauties they will

now fail to discover them. It is rather hard, not only on the public, but also on the Duke of Leinster's family, that the eminent architect (for I am sure Mr. Roe is not to blame) who found room for that screen could not find a more suitable place for the beautiful monument in question; or, having placed it as he did that he did, not manage to throw more light on it. Is it possible that the Duke was consulted on the subject, or that he approved of placing it in that "dim religious light?" And as to the Sneyd Monument and the rest, so familiar to the frequenters of the old church, if suitable and conspicuous places cannot be found for them in the "restored" church, could they not be transferred to St. Patrick's, where there is room enough. I speak in ignorance as to whether the authorities of either church (supposing them to have the will) have the power of carrying out such a transfer. If, however, the monuments in question could be so disposed of, the authorities of Christ Church would free themselves from the reproach of acting the part of the dog in the manger, which now appears to be attached to them. They may be able to explain the entire matter to the satisfaction of the public, so that inquirers should suspend their judgment. The bosoms of the powers that be may perhaps be filled with the best intentions. Hoping so,

I remain, your obedient servant,

PAGANINI.

P.S.—However great the merit of the "restoration," the lovers of music have no cause to rejoice at the arrangement of the organ and choir. In the old church the music was not strained through a thing they call "a screen,"—screened is the music, in every sense of the word—nor were the singing birds shut up in a cage, half seen, half heard.

### LECTURES AT THE COFFEE PALACE.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—It is now nearly twelve months since the Coffee Palace Company advertised for a secretary who amongst his other duties would give an occasional lecture. As a tradesman and member of the society I beg you will remind the Committee of the great want that exists of such an officer, who could make the "Palace" something more than a coffee public-house; and as I am aware that many like myself would hail with pleasure, and heartily support any advance towards technical education by lecture or class, trust that a move may be made both in Dublin and Kingstown to accomplish the object.

I expected that the good seed sown by you in your issue of 1st of June last would have borne fruit before this, and the offer there made taken advantage of by those to whom it was so generously made.—Yours, &c.,

"KAWAH."

### SOCIAL SCIENCE CONGRESS.

THIS congress will open at Cheltenham on the 23rd inst., and will continue till the 30th under the presidency of the Right Hon. Lord Norton, K.C.M.G. The presidents of the different departments will be as follows:—(1) Jurisprudence—Mr. Commissioner Miller, Q.C., LL.D.; (2) Education—Hon. George Broderick; (3) Health—W. H. Michael, Esq., Q.C., F.C.S.; (4) Economy and Trade—Professor Bonamy Price; (5) Art—J. Gambier Parry, Esq. The following subjects have been specially arranged for discussion in the last three departments:—Disinfection by Sanitary Authorities; House Building and Sanitary Condition of Houses; Overcrowding; Borrowing Powers of Corporations; Depressed Condition of Industrial Enterprise; Provision among Working Classes for old Age; Street Architecture; Knowledge of Music; Art in Towns and Villages. Some other subjects volunteered will also be discussed during the sittings. The above important subjects will, however, supply ample materials, and we have no doubt the congress will produce papers and discussions worthy of perusal, and serious considerations in view of the future wants of the country.

\* See p. 287.

## TRADES' UNION CONGRESS AT BRISTOL.

THE eleventh annual congress of the representative<sup>s</sup> of the trades' unions of the country was opened on the 9th ult. in the Athenæum, and continued its sittings during the remainder of the week. Delegates were present representing most branches of industry.

Mr. Bailey (Preston), Chairman of the Parliamentary Committee, presided at the opening sitting of the congress. He said that, taking into consideration the depression in all branches of industry, he thought the attendance at that assembly showed that the working men of the country had every confidence in the usefulness and benefits of the trades' unions. Though they had sustained defeats in Lancashire, London, Northumberland, and other places, they had not become wholly demoralised, but retained a nucleus by which they could improve their position at no distant period. They had now to contend with a strong federation of employers, and he thought the day was not far distant when they, as trades' unionists, would have to extend their lines, and have a strong federation, instead of existing simply as isolated societies.

Mr. G. F. Jones, Secretary of the Bristol Trades' Council, was elected President, and other officers having been chosen,

Mr. Broadhurst (London), Secretary of the Parliamentary Committee, presented the report of the committee, which characterised the past session of Parliament as a most exciting one. Questions of foreign policy had largely superseded the consideration of home matters, many of which had been neglected through the all-absorbing Eastern Question. The committee trusted that the obstacles to progress at home would not exist in the coming year, and that those matters which so deeply affected the welfare of artisans would receive the consideration their importance demanded. The Attorney-General, on behalf of the Government, had promised to introduce a bill on the subject of employers' liability; but, although Mr. Macdonald had constantly pressed the Government to introduce the bill, nothing more had been heard of it. The associated employers were offering a most fierce opposition to any Government action on the question, and the committee had been informed that a large deputation had had an interview with the Attorney-General, urging him not to proceed with the bill. The report next referred to the passing of the Factory and Workshops' Act, in which some important modifications were conceded by the Home Secretary; but, on the whole, the Act contained all the important principles of the bill. The only case of dispute between skilled and unskilled labour which had been brought under the consideration of the Parliamentary Committee was the dispute between the shipyard labourers and the iron shipbuilders on the Tyne, and the committee, having fully considered the matter, was of opinion that, on account of the technical difficulties involved, no mutually satisfactory terms of settlement could be arranged by persons not possessing technical knowledge of the working of shipyards, and they, therefore, could not make any recommendation to the congress on the subject. The committee, in remarking upon the general position of trades' unions, stated that the past year had been one of great depression in nearly every branch of productive industry, but the want of employment had not been peculiar to Great Britain. The present year had witnessed the close of two remarkable disputes in the building trade—the masons of London and the joiners of Manchester. In both cases the men were supported by powerful unions with large accumulated funds and great resources—the power of levying for extra support. They regretted to say that in both cases the men failed to establish their demands. Although the building trades in Manchester and London were in a prosperous state at the commencement of the disputes, yet, under the power of the strike clauses now inserted in all contracts, the employers are enabled to postpone the completion of the works to an indefinite period. The sympathies of nearly all classes of people, except the workers, are on the side of capital, without regard to the special point in dispute. The employers in nearly all branches of industry are now united in powerful organisations. This form of united action they have undoubtedly copied from our own unions. Their almost unlimited wealth, their severe discipline, and concentration of authority, gives them a power of offence and resistance hardly equalled by our best unions. The superfluous wealth of English employers enabled them to import their labour into England, not from motives of economy, but from a determination to defeat the workmen's combination. The English unions are thus brought face to face with a most wealthy, most unscrupulous, and skilfully organised opposition and power, for the most part working in

secret. Its deliberations are conducted in private—and its edicts go forth in strictly private and confidential circulars. The greatest offence known to these secret associations is membership of a trades' union, the highly skilled and industrious workman is punished equally with the worthless should he be determined to exercise his birthright of association with his fellow-worker. The committee observed that it was not their duty to point out the means of dealing with those new elements in industrial conflicts, but they venture to warn the unionists that, in order to meet that new condition of things, their societies must be placed on the soundest foundations. Organisation was fast becoming a science, requiring experienced statesmanship to successfully conduct it. The revenues of the unions must be enlarged, and their area of influence must be considerably extended.

On Tuesday, Mr. George F. Jones, who had been elected President of the congress on the previous day, delivered an address, in course of which he observed that the voluntary principle was essential to the existence of trades' unions, and it was of the utmost importance that it should be maintained in its integrity. The sacredness of personal freedom should be held intact and be defended at all hazards, for the violation of that principle would jeopardise the very existence of their unions. A noticeable fact in regard to this and other gatherings of labour representatives was the altered tone of the Press in its comments on labour questions and working men's movements, and that undoubtedly was a healthy sign of the times. In proportion as the Press was moderate, so would its influence with the working classes increase, and even its adverse comments on matters of policy be listened to with respect. In answer to the question, what concessions they were prepared to make in the mode of conducting their negotiations with employers, he thought it only reasonable to inquire what further concession was required. If it implied conciliation and arbitration, then, he said, there were no new features in connection with trades' unionism. It was one of the fundamental principles of many societies to offer conciliation, or, failing in that, arbitration. The recent contests between capital and labour in the building trades in London and Manchester, and which resulted disastrously to the cause of labour, was fraught with interest, and the lessons they were calculated to teach should be stored up for guidance and direction in the future. He did not presume to question the legality of the disputes referred to, nor should he do more than record the fact of the persistent refusal of the employers to conciliate the men, and the artifices resorted to in order to supplant the men on strike. They had no legal or moral right to fetter the action of employers; the perfect freedom of action which they claimed for themselves must, in honour, be conceded to those who were opposed to them, even though they resorted to the unpatriotic action of importing foreigners from the Continent and America in order to defeat the object of the men to whose industry and skill doubtless the majority were indebted for their exalted position. The enormous expenditure necessarily incurred in that foreign trade in human kind was to them comparatively unknown. The cost on the side of labour was correspondingly great, but the cause of unionism was to-day as good as ever. It was some satisfaction to know that during the recent crisis, when trades' unions had been fairly put upon their trial, many of their tried friends had been faithful to the cause of labour. They would not soon forget the many and complete answers given by Mr. Macdonald to charges that were made against them. He knew of no more effectual mode of silencing their opponents than by a consistent perseverance in well-doing, and unflagging zeal and increased earnestness and determination to enter afresh the arena of legitimate conflict until the just and reasonable claims of labour were recognised and perpetuated to future generations.

The Vice-President (Mr. Kennedy, Glasgow) said however much they might differ from some of the observations of the President, they must all agree that his address represented a large amount of energy and zeal. He took exception to the statement that the failure of the masons' strike in London was owing to the metropolitan market being flooded with labour from Liverpool and Scotland. He did not think the President was justified in making that statement, but they should remember he was only quoting the words of another gentleman, who had possibly fallen into the same error as he had done.

Mr. Thomson (Leith) observed that of the 600 men who went to London, and who were paid by the union to return to their homes, only about 100 were sent back to Scotland. He knew that a large number of masons went from Scotland to work in London, but he was also perfectly aware that not very long ago, when there was a strike in Glasgow, masons from England came there and completely

swamped the Scotch society. He thought slurs should not be thrown out against a nationality which had always proved themselves as good trades' unionists as ever bore the name.

Mr. Prior (Manchester) did not think the congress would gain much advantage by discussing nationalities. He moved a vote of thanks to the President for his address.

Mr. Spronston (Edinburgh) seconded the motion, which was carried amidst loud applause, and was briefly acknowledged by the President.

The congress then resumed the debate upon the Parliamentary report, and on the motion of Mr. Fitzpatrick (Liverpool), seconded by Mr. C. Williams (Birmingham), it was unanimously adopted; an amendment submitted by Mr. Laird (Newcastle-on-Tyne), in reference to skilled and unskilled labour, in which he suggested the insertion of the words "that the relation of iron shipbuilders and shipyard helpers were not satisfactory, and would not be until a mutually equitable system of work and payment was established," being withdrawn.

A vote of thanks to Mr. Macdonald, M.P., for the courage and devotion he had shown in pressing the claims of his Compensation Bill upon the attention of the Legislature was passed unanimously.

On Wednesday the congress resumed its sittings under the presidency of Mr. G. F. Jones (Bristol), who was supported on the platform by Mr. Macdonald, M.P., Mr. J. Morley, &c. There were five lady delegates present.

Mr. Henry Crompton reviewed at considerable length the provisions of the Summary Jurisdiction Bill of the Government, which, in his opinion, was sound and thorough. He did not, however, believe that the country would be satisfied with the reform of the summary jurisdiction of the magistrates unless there was a reform of the magistracy itself. He had never adopted the notion that the mere substitution of a number of fourth or fifth-rate lawyers scattered all over the kingdom would be an improvement, but he thought there should be an infusion into the body of magistrates of a very considerable number of really competent legal justices, and that the system by which magistrates were selected should be reformed.

Mr. Shorrocks (Manchester) moved that the debate on the Criminal Jurisdiction Bill be suspended, that Mr. John Morley might read his promised paper on "Over Production."

Mr. Morley said the situation of trade at the present moment made the discussions of that congress more than ordinarily serious. The industrial world had been overcast with the gloom of falling markets, silent factories, idle furnaces, closed pits, scanty profits, often crossing the line to losses that were not scanty, and lowered wages. Let them beware of exaggerating the amount and intensity of the existing depression. They were told in the sombreness of suppressed panic that the exports had fallen off. Considering that both steel and iron rails had been at prices 120 per cent. higher than they were now, that coal had been 200 per cent. higher, and that within the last two years many large classes of cotton goods were 40 per cent. above the prices to-day, it would, of course, be nothing short of a miracle if the volume of expenses had maintained their money value. Employers should be less ready to treat reduction of wages as the first and only possible remedy. When trade was bad a temporary limitation of supply for the purpose of relieving over production was the natural remedy, whilst a permanent limitation of supply for raising prices was an artificial device. He denied that foreign competition existed to any great extent, and showed that foreign countries, said to be in competition with England, also suffered in trade, particularly where they had adopted the policy of protection.

Mr. Macdonald, M.P., observed that, two years ago, when he asserted that the cause of stagnation of trade was "over production," he was assailed with declarations that it was a dream, and a theory arising from the disordered brain of a trades unionist. At the meeting of the Associated Chambers of Commerce Mr. Mundella declared that the cause of stagnation was over production; and Mr. Sherman, Secretary of the Treasury of the United States, affirmed about the same time that the principal cause of the commercial crisis in America was reckless over production. He thought Mr. Morley entitled to the thanks of the working men of the whole country, and he thought some constituency would very soon be found asking him to represent them in Parliament.

In the evening the delegates were entertained by members of the Bristol Trades' Council at the Grand Hotel. The President of the congress presided, and there were nearly 200 guests present.

Mr. Crompton, in proposing "The Trades' Unions of the United Kingdom," said he regarded them as a great power, which, like any other power or force in Nature, was capable of good or evil. Trades'

unions had discharged most important functions by endeavouring to lessen the intensity of the struggle between labour and capital by their ready acceptance of arbitration and conciliation.

Mr. Burtwistle, in proposing "Prosperity to Bristol," said there was a prospect of the strike of the cotton operatives in the city being brought to a termination by the end of the week.

Other toasts were drunk, but quite a gloom was cast over subsequent proceedings by the receipt of a telegram announcing the terrible colliery disaster at Abercane.

Mr. Bailey (Preston) proposed that they should open a subscription at once on behalf of the widows and orphans.

On Thursday the Secretary read a letter from the Council of the International Labour Union, pointing out that trades' unions had arrived at a stage in their historical development when it seemed a necessity of their existence to collect facts and information based on reliable data as to the conditions of labour, modes, and the cost of living, and the moral and intellectual culture of the working classes in the different countries of Europe and America. The recent difficulties which had arisen, notably in that of the London stonemasons' strike, would indicate sufficiently the direction in which the council believed the services of the union might be rendered available for mutual purposes in negotiating with societies of foreign labour.

Mr. Slatter (Manchester) moved a resolution, giving instruction to the Parliamentary Committee to prepare and introduce into the House of Commons at the earliest opportunity a bill to reform the jury system, based upon the widening of the institution by lowering the qualification and the payment to juries of such moderate compensation as will secure the poorer jurymen against actual loss.—Adopted.

Mr. Fitzpatrick (Liverpool) moved a resolution recommending the extension of the provisions of the Employers and Workmen's Act to seamen. The only working men now existing who could be seized and imprisoned for not fulfilling a contract was the British seaman. One difficulty in the way of extending the act to seamen was the advance note, and he thought it would be of considerable benefit to them if the advance note system could be abolished. It had, however, entered so much into the ordinary life of a seaman that he would hesitate, without the approval of the seamen themselves, to advocate its abolition. He had received a letter from Mr. Plimssoll that morning, in which he said he thought that the difficulty as to the advance notes would be completely met by the proposal to extend to seamen the provisions of the Workmen and Employers' Act; for, if that was done, and the power to imprison taken away, advance notes would be abolished.—Adopted.

Mr. Birtwistle (Manchester) proposed that, in view of the Factory and Workshops Consolidation and Amendment Act coming into operation on Jan. 1, entailing considerable additional labour upon the already insufficient and consequently overworked inspectors, the meeting should instruct the Parliamentary Committee to take immediate action to secure the appointment of a considerable number of respectable practical working men as assistant sub-inspectors.

After some discussion Mr. Patterson moved as an amendment the insertion of the words "and women," and contended for the appointment of female inspectors.

After an animated discussion the amendment was carried, forty-six voting for it and thirty-three only for the resolution.

Mr. Adam Wieler (London) then read a paper on shortening the hours of labour, in which he said that since it had been proved by statistics that the working people by over toil did not attain the age they might attain under more favourable circumstances, since it was well known that a large proportion of the working classes could not obtain employment, and that labour had in most instances to be sold at less than the recognised cost of living, he had come to the conclusion that the best means of improving their condition was to reduce the number of hours of toil.

[The foregoing report was in type for our last issue, but had to be held over from want of space.—ED. I. B.]

## RE NATIONAL MONUMENTS.

The following is the evidence of Mr. Roberts, the Assistant Commissioner of the Irish Board of Works, given during the late inquiry. The subject to which this evidence is pendant is dealt with in our opening article:—

### MR. ROBERTS EXAMINED.

Chairman.—The next head is National Monuments and Ecclesiastical Ruins?—There are fourteen national monuments now vested in us by the Church Commissioners, who transferred a sum of £22,000 to us for the purpose of their maintenance and preservation, and the commissioners are now about to transfer, I think, about one hundred additional structures to us, and to hand us over an additional sum of £30,000 for the purpose of preserving and maintaining them, so that our duties underneath that head are, I think, likely to continue for a great many years.

Who superintends the repairs?—Mr. Deane, architect, of Dublin. His appointment was sanctioned by the Treasury for that special duty.

You only keep the buildings in repair; you do nothing in the way of restoration?—We do nothing in the way of restoration that can possibly be avoided.

Mr. Henry.—Your custody of the ancient buildings includes access to the public, and the appointment of caretakers?—Yes.

Then in the case of each particular monument or group of monuments, the Board of Works appoints some individual to take charge?—As caretaker.

Do you provide a residence for that caretaker?—We have not provided residences, but we propose to do so in two cases, one at Glendalough, and one at the Rock of Cashel. We find it necessary to do so, in order to secure the caretakers living sufficiently close to the premises to exercise that surveillance which is necessary.

Have the Church Commissioners been in communication with the Board of Works as to the transfer of this large number of monuments?—They have.

In repairing or preserving these monuments has any member of the Board visited the monuments other than the architect in special charge?—I have done so and the chairman has also done so upon some occasions.

Have you had any communication with the Archaeological Society on the subject of the repairs?—No, we have not.

In reference to this list of ecclesiastical monuments, this further list which the Church Commissioners propose to transfer, are you aware whether any one has ascertained whether the private owners will transfer them or not?—I believe the Church Commissioners have taken steps, or are taking steps, in order to ascertain if the private owners will transfer. Before investing or making any order investing us they will require to be satisfied that the private owners are prepared to agree to the arrangement.

Then this advertisement which was issued does not proceed from the Commissioners?—Entirely. We knew nothing whatever of it. Our only communication with the Church Commissioners had reference to the special monuments which it appeared desirable to maintain.

As far as your opinion goes, does this exhaust the number of ecclesiastical monuments in Ireland desirable to be preserved?—No; I don't think it does. I think we had a list of some 1,200 or 1,300 of them from which we selected some 120 or 130 of the most important, and submitted that list to the Church Commissioners for their consideration. They have on further consideration of the matter reduced that list—producing that which you may have seen in the public papers.

Then this recommendation, as to the hundred monuments more or less which are about to be transferred, really proceeded from the Board of Works?—We furnished the names and the particulars of the structures to the Church Commissioners with a view of their making inquiry as to the nature of the property and taking such steps as may be necessary for determining whether they could vest them in us.

How did the Board of Works inform itself as to whether these were the proper monuments at all to be preserved or not?—We called on our local officers in the country in report to us. We invited every county surveyor in Ireland to furnish us with particulars supplying each with a list of all the monuments which we could ascertain from any records in the office, were in his county, and we asked him to furnish us with any information he could procure. That, with any information which Mr. Deane, the Superintendent of Monuments, and our own architect could obtain, was the information upon which we framed the list which we sent to the Church Temporalities Commissioners.

Mr. Kavanagh.—You stated that £22,000 had been handed over to you by the Church Temporalities Commissioners, and that probably with the next lot of ancient monuments you would get £30,000 more. That would come to over £50,000. Is it proposed to spend the capital of this in building matters, or to invest the money and spend the interest?—The way we dealt with the £22,000 handed to us was this. We had an estimate prepared of what it would cost to put each monument in a proper state of repair; and we also had an estimate made of what would be the probable cost of maintaining it in that condition; also the cost of the necessary caretakers to attend it. The annual cost of these caretakers and of maintaining was capitalised, and the amount invested in Government securities, in which way a fund has been provided for maintaining these works. The amount of money immediately necessary for putting the monuments in such a thorough state of repair as would admit of their being preserved we have held in hand for the purpose of doing the work—investing it in securities, and drawing it out as we require it.

## CHRIST CHURCH CATHEDRAL.

Mr. William George Black writes as follows to the *Athenæum*:—

"As the readers of the *Athenæum* are aware, Christ Church Cathedral, Dublin, has been recently restored at the cost of Mr. Henry Roe. In this case, as in other cases, the work has, to a considerable extent, consisted, I understand, in rebuilding, but at last it has been brought to an end and the cathedral reopened. On a general survey of the fair white walls of the interior, one is surprised to notice how few monuments, half-a-dozen at most, are to be seen. This is somewhat remarkable, for with Christ Church's history some records of the dead there interred might be expected. On descending to the vaults, however, all is explained. There, ranged along the wall, in a darkness so dense as scarcely to be lightened by the tallow-candle of the somewhat unlikely looking guides, are the monumental tablets and effigies. Naturally, the first question put is, why those are there, to which the answer given is simply that since the 'restoration' no room has been found for them in the church above. On further inquiry as to whether it might be the intention ultimately to remove them to a more fitting place, I was informed that no such intention was entertained. I twice visited the vaults last month (August) and had different guides. On both occasions I asked the same questions, and both times received the same answers. I do not profess to know whether it is a feeling of ultra-culture which has induced the banishment of the monuments,—it would be difficult indeed to judge of the merits or demerits of works in such situations. It would be interesting, however, to learn how those who raised the funds for the erection of many of the monuments would regard the care which is now bestowed on them. Thus, to take four examples of monuments so erected, there are (1) a monument to Lieut.-Col. Wallace, C.B., erected by the 5th Dragoon Guards, (2) one to George Renny, M.D., by the College of Surgeons, (3) one to Henry Mathews, by the officers of the Arctic ship *Enterprise*, and (4) one to Nathaniel Sneyd, 'by public subscription.' It surely scarcely entered the minds of the generous donors when they presented those works, which they fondly hoped would commemorate the memory of the departed, that a few years later those monuments would be dragged from the public gaze and consigned to the dust and darkness of the vaults, where the infrequent visitor might study them as best he might by the semi-light of the aforesaid tallow-candle. Nor is this all. When a monument has been found too large for its new abode, the persons who have had charge of this part of the 'restoration' movement have not scrupled to take it to pieces; as an instance, see Sir Samuel Auchmuty's monument, which has the large central figure carefully laid out at the side. After this it is scarcely necessary to observe that the inscriptions which testify that beneath lie the ashes of those whose names are recorded above are rendered utterly inaccurate, not only by the above removal of the monuments, but also owing to the fact, as vouched for by my two guides, that during the 'restoration' the coffins, &c., were collected, and all piled in a corner of the vaults, which is now securely bricked up, with no tablet to tell whose remains are there brought together. This is the respect paid to the dead in Christ Church Cathedral, Dublin."

Messrs. Mintons, Stoke-upon-Trent, have taken at the Paris Exhibition the highest honours awarded for the productions of the potteries of the world—even Sévres has this time been outstripped.

A memorial of the late Janet Hamilton, of Langloan, Coatbridge, a Scottish poetess, whose contributions to Scottish literature attracted considerable attention during the last quarter of a century, is proposed, and funds have been collected for that purpose. A proposal that the memorial should consist of an ornamental window in Old Monkland parish church, of the congregation of which Janet Hamilton was a member, is meeting with strong opposition.

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

JOHN Gaspard Lavater endeavoured by the study of human faces to discover a resemblance between the features and the mind. He was a brilliant writer, but his attempt to raise physiognomy to the rank of a science was not a success, although he has numerous disciples to day who believe that the features are an index to the character or mind. In certain cases, no doubt, a studious man may be identified by his face or features, but his temper is a mystery, unless it is solved by a personal intercourse with the man. Handsome men may be very irritable and very ignorant, and very common and even malformed faces may belong to men of the most splendid talents. Phrenology proper, no more than physiognomy, is not based, as far as men's knowledge of them yet extends, on nuerling laws. What the future study of these subjects may bring to light, of course is in the womb of time. As the age of the world increases it is not unlikely better systems or reasoning and deduction may be adopted for tracing resemblances between the human features and the mind. We are not sure, however, that it would add to the general happiness of mankind, if men and women's minds could be known by their features, or, in other words, that our faces should present a reliable index for reading the character of our mind.

In the architectural world, and in other directions, there would, if the science held good, be strange surprises. If clients would select architects according to their temperament we would soon find out who designed best—those of the phlegmatic, or choleric, or those of the sanguine or melancholy turn of mind. Perhaps, also, we would be able to fix upon which would be the best architect at Gothic design, or what temperament would furnish the best Classic one. If phrenology and physiognomy could be relied upon, certain youths might be prevented from losing their time in the study of some sciences and arts which were totally unfitted for the scope of their powers or the tendencies of their mind. We might indulge in a host of conjectures, but it would be useless to pursue the subject by making dogmatic assertions. Let us take an extract from the work of Lavater:—"All men have talents for all things; yet we may venture to assert, that very few have the determinate and essential talents. All men have talents for drawing [query]; they can learn to write, well or ill, yet not an excellent draughtsman will be produced in ten thousand. The same may be affirmed of eloquence, poetry, and physiognomy. All men who have eyes and ears, have talents to become physiognomists; yet not one in ten thousand can become an excellent physiognomist." The next extract will interest artists, great and small, in which list we may also include architects, for a good architect must be a good artist:—"No one whose person is not well formed can become a good physiognomist. Those painters whose person were best were the handsomest—Rubens, Vandyke, and Raphael,—possessing three gradations of beauty, possess three gradations of the genius of painting. The physiognomists of the greatest symmetry are the best. As the most virtuous can best determine on virtue, and the just on justice, so can the most handsome countenances on the goodness, beauty, and noble traits of the human countenance, and consequently on its defects and ignoble properties. The scarcity of human beauty is the reason why physiognomy is so much decried, and finds so many opponents."

Here, again, is another quotation for the delectation of artists and writers:—"Whoever studies art more than nature, and prefers what painters call manner to truth of drawing; whoever does not feel himself moved almost to tears at beholding the ancient ideal beauty, and the present depravity of men and imitative art; ho who views antique gems, and does not discover enlarged intelligence in Cicero, enterprising resolution in Cæsar, profound thought in Solon, invincible forti-

tude in Brutus, in Plato godlike wisdom; or in modern medals, the height of human sagacity in Montesquieu, in Haller the energetic contemplative look and most refined taste, the deep reasoner in Locke, and the witty satirist in Voltaire, even at the first glance; never can become a physiognomist."

However mistaken Lavater may have been in his views, and however weak may be his theory or conclusion on physiognomy as a science as applied to the mind of man, it must be allowed at the same time that among his observations are many brilliant truths, and that he was conscious of his own failings, and had the moral courage to avow it. In chapter xvi. in the abridged edition of his work, "London: Published for Vernor and Hood, January, 1806," he thus concludes his description of "The Physiognomist":—"The physiognomist should know the world; he should have intercourse with all manner of men, in all various ranks and conditions; he should have travelled, should possess extensive knowledge, a thorough acquaintance with artists, mankind, vice, and virtue, the wise and the foolish, and particularly with children; together with a love of literature, and a taste for painting and the other imitative arts. I say, can it need demonstration, that all those, and much more, are to him indispensable? To sum up the whole: to a well-formed, well-organised body, the perfect physiognomist must unite an acute spirit of observation, a lively fancy, an excellent judgment, and, with numerous propensities to the arts and sciences, a strong, benevolent, enthusiastic, innocent heart; a heart confident in itself and free from the passions inimical to man. No one, certainly, can read the traits of magnanimity, and the high qualities of the mind, who is not himself capable of magnanimity, honourable thoughts, and sublime actions. I have pronounced judgment against myself in writing these characteristics of the physiognomist. No false modesty, but conscious feeling impels me to say that I am distant from the true physiognomist as heaven is from earth. I am but the fragment of a physiognomist, as this work is but the fragment of a system of physiognomy."

No writer since Lavater's time has improved, as far as we are aware, upon his system. The works of the Swiss cleric have been translated and re-produced in many forms, and are still popular over the world. Whether possessing beauty or not, neither men nor women need fear to read Lavater, for they may believe him or not believe just as they please, and continue notwithstanding to hold (what they are naturally prone to do) a very high opinion of themselves on the score of beauty, form, and accomplishments.

From Swift's letters to Pope it is evident he suffered many annoyances from the pimpling, puny postal service of his day—annoyances similar to what others and ourselves have experienced in the present day. His letters were opened and delayed, and sometimes not transmitted at all. The author of "Gulliver's Travels" and "The Tale of a Tub" might have been forgiven; but the author of the "Drapier's Letters" was too important a personage, even in his declining years, to be not well watched, for fear his inebriations would create a fresh soul under the ribs of death. Here is the opening of one of Swift's letters from Dublin, dated August 8th, 1738, about seven years previous to his death, and when his health was fastly breaking down. It gives a forecast of the great calamity to a great mind—a mind which could even move the multitude and command praise from the enemies of his cause and country:—"I have your's of July 25. And first I desire you will look upon me as a man worn with years and sunk by public as well as personal vexations. I have entirely lost my memory, incapable of conversation, by cruel deafness, which has lasted almost a year, and I despair of a cure. I say not this to increase your compassion (of which you have already too great a part), but as an excuse for my not being regular in my letters to you and some few other friends. I have

an ill name in the post-office of both kingdoms, which makes the letters addressed to me not seldom miscarry, or be opened and read, and then sealed up in a bungling manner before they come to my hands. Our friend Mrs. B. is very often in my thoughts and high esteem. I desire you will be the messenger of my humble thanks and service to her. That superior universal genius you describe, whose handwriting I know towards the end of your letter, hath made me both proud and happy; but by what he writes, I fear he will be too soon gone to his forest abroad. He began in the Queen's time to be my patron, and then descended to be my friend. It is a great favour of heaven that your health grows better by the addition of years. I have absolutely done with poetry for several years past, and even at my best times I could produce nothing but trifles." Pope died in 1744, and Swift the year after.

Pendant to the above, an extract from one of Swift's letters of an earlier date (July 8, 1833) will interest some of our Dublin readers, from its allusion to city matters, social life and surroundings of the period in which it was written:—"I believe there are not in this whole city three gentlemen out of employment who are able to give entertainments once a month. Those who are in employments of church or state are three parts in four from England, and amount to little more than a dozen. These indeed may once or twice invite their friends or any person of distinction that makes a voyage thither. All my acquaintances tell me they know not above three families where they can occasionally dine a whole year. Dr. Delany is the only gentleman I know who keeps one certain day in the week to entertain seven or eight friends at dinner, and to pass the evening in drinking. Our old friend Sonther (who has just left us) was invited to dinner once or twice by a judge, a bishop, or a commissioner of the revenues, but most frequented a few friends, and chiefly the doctor, who is easy in his fortune and very hospitable. The conveniences of taking the air winter or summer [in Dublin] do far exceed those in London, for the two large strands just at the end of the town are as firm and dry in winter as in summer. There are at least six or eight gentlemen of sense, good humour, and taste, able and desirous to please you, and orderly females to take care of you. These were the motives that I have frequently made use of to entice you hither. And there would be no failure among the people here of any honour that could be done you. As for myself, I declare my health is so uncertain that I dare not venture amongst you at present. I hate the thoughts of London, where I am not rich enough to live, otherwise than by shifting, which is now too late. Neither can I have conveniences in the country for three horses and two servants, and many others which I have here at hand."

What follows is very interesting and amusing, and highly characteristic of the dean's irony:—"I am one of the governors of all the hackney coaches, carts, and carriages round this town, who dare not insult me, like your rascally wagoners or coachmen, but give me the way; nor is there a lord or squire for a hundred of yours to turn me out of the road or run over me with their coaches and six. Thus I make some advantage of the public poverty; and I give you the reasons for what I once writ—why I choose to be a freeman among slaves rather than a slave among freemen. Then I walk the streets in peace, without being jostled, nor even without a thousand blessings from my friends the vulgar [the poor]. I am lord mayor of 120 houses; I am absolute lord of the greatest cathedral in the kingdom; am at peace with the neighbouring princes; the Lord Mayor of the city, and the Archbishop of Dublin; only the latter, like the King of France, sometimes attempts encroachments on my dominions, as old Lewis did upon Lorraine. In the midst of this rallery, I can tell you with seriousness that these advantages con-

tribute to my ease, and therefore I value them," &c.

A historical painting of a scene in the Liberty, or at Cross Puddle, opposite St. Patrick's Cathedral, representing a group of weavers reading one of the "Drapier's" letters, would indeed form an interesting picture. So, we think, would a painting of Swift passing down Patrick-street or the Close, with a number of poor men and women saluting him as he passed, and showering blessings upon his head. H.

### BOOKS RECEIVED.

*The Public Health (Ireland) Act, 1878, with Schedules, &c.* Dublin: John Falconer, 53 Upper Sackville-street.

To review an Act of Parliament passed during the late session would be unnecessary labour. While the Act under notice was passing through Parliament, several suggestions were made and amendments took place. The objects of the present Public Health Act are to consolidate into one act the various provisions with respect to sanitary matters and burial grounds of the several Acts—which are about twenty in number—in force in Ireland, and to amend the same where such amendment is required. The labour of consolidation was nowise small, but the work was imperatively necessary (as we have often pointed out in these pages), owing to the conflicting decisions of magisterial judgments, and also the conflicting of several clauses of kindred Acts with one another. What may be the shortcomings of the present Act which will really require future emendations, experience can alone show when it comes to be administered under various circumstances. As it stands, the present Public Health Act is a most important one for the future of our cities and towns, and we are certainly of opinion no intelligent ratepayer should be without a copy of the Act. It will be to his interest to have it for reference, so that he can maintain his rights, and compel corporations, local boards, and other public bodies to do their duties in a sanitary direction. The landlord, householder, or tenant can also learn from the perusal of the Act what constitutes their duties, and how to avoid penalties. The sanitary provisions of the Act, as far as they go—and they extend pretty far,—are excellent in connection with drains, sewers, regulation of buildings, privies, water-closets, scavenging and cleansing, water supply, &c. Lodging-house keepers also will do well to post themselves up in the clauses of the Act that relates to their business. Shopkeepers and trades folk and manufacturers prone to create obstructions or nuisances by carrying on noxious or offensive trades will find stiff law and curative physic in the Public Health Act. Nuisances are very well defined in the Act, but there are many folk in city and country who cannot discriminate between dirt and filth or offensive dirt and mud. The pig in the corner, the ass upon the floor, and the manure-heaps before the door are comfortable sights to some easy-going mortals. Choked drains and open cesspools or sewer-gas permeating the rooms of a house, fail to waken up the sluggish minds of other folk. They wonder sometimes why they have not better health, but they will persist in killing themselves, so the only way to keep them alive and in their senses is to brace them around by the strait jacket of a stiff, wholesome, and merciful Act of Parliament.

Such an Act is that under notice, and we trust its provisions will be rigidly enforced, irrespective of sect or party, individual or public body. The little volume published by Mr. Falconer will be found highly serviceable, and indeed it is generally indispensable. The "Introduction" is a valuable epitome, which will give essential aid in the reading of the act. If we would add more words at present it would be to say that the printing and mechanical get-up of the volume are unexceptionable.

*Historical Handbook to the Monuments, Inscriptions, &c., of the Collegiate, National, and Cathedral Church of St. Patrick, Dublin.* By Rev. Alexander Leeper, D.D., Canon of St. Patrick's. Dublin: Hodges and Co., Grafton-street.

CANON LEEPER has in the *brochure* before us done good service in laying before the public a description of the restored Cathedral of St. Patrick and its monuments, &c. With this work in hand the visitor can with pleasure inspect for himself the several objects so faithfully described by our author; he will find it not only an excellent guide on the spot, but also for reference in the study, abounding as it does with antiquarian and historical notes respecting the cathedral.

"It has not been considered necessary (says the author in his brief preface) to verify every statement by references and authorities, lest what was intended to be only useful might appear pretensions. Notes, however, have been added wherever they were deemed necessary, and no pains have been spared to make the book in every respect trustworthy."

After giving the inscription on the historic monument of the Duke of Schomberg, the author remarks that his descendants receive till the present day over £2,000 as "Hereditary Pensions." The duke's skull, which was found in a good state of preservation some years ago, is kept in a press in the vestry!

In the south transept is the fine monument of Archbishop Smyth. It was executed by the famous Van Nost, from the design of his pupil, John Smyth. The cost was £1,500. On the side of the monument it is stated that it had been placed in its present position by Sir Benjamin Lee Guinness, a kinsman of the archbishop.

With an extract as to the genealogy of the Guinness family given at page 60, we must close our notice of this very interesting volume:—

"Mr. J. F. Fuller, the present eminent honorary architect of the Cathedral, who is also a distinguished genealogist, has drawn out a curious and very interesting pedigree in connexion with Archbishop Smyth. It reveals the genealogical fact that the late Sir B. L. Guinness, the restorer of the Cathedral, had seven direct descents from Alfred the Great. It will be seen that of necessity he had also the same number of descents from all the kings who derived from Alfred, down to the three Edwards, giving in round numbers over eighty royal descents, without taking into account the foreign ones through the wives of the English kings. The following are the links of the pedigree down from Bishop Smyth:—

Dorothea Burgh—Thomas Smyth, Bishop of Limerick.  
Rev. John Smyth, Chan. of Connor, brother of Archb. Smyth.  
Susanah Smyth—Benjamin Lee, Esq., of Merrion.  
Anne Lee—Arthur Guinness, Esq., of Beaumont.  
SIR BENJAMIN LEE GUINNESS."

*The Journal of the Royal Historical and Archaeological Association of Ireland.* Vol. iv., Parts 33 and 34.

In the parts of this journal just to hand, we have the twelfth instalment of "Loca Patriciana," by the Rev. J. F. Shearman. It treats of the Kings of Ossory, of Cashel, and of the Silmaclodra—the Anglo-Norman invasion of Ossory; and in an appendix we have an account of Martin the Elder, a patrician missionary in Ossory in the time of St. Patrick. The seal of the Irish chief, Donall Mac Murrough, King of Leinster, is shewn in a fine wood engraving.

In its issue of Saturday the *Athenaeum* has the following respecting this valuable society and its *Journal*:—

"In the year 1849 the Kilkenny Archaeological Society started into existence, under the auspices of the Rev. James Graves. Before long, extending its operations into the shires of Carlow, Wexford, Waterford, and Cork, it became entitled to prefix 'South-east of Ireland' to its proceedings. In 1868 the Prince of Wales became its patron-in-chief, and as no district of Ireland was excluded from its operations, its name was changed to 'The Historical

and Archaeological Association of Ireland.' At the close of the following year the power to elect fellows as well as members was granted, and the word 'Royal' was, by the Queen's permission, joined to the existing designation. About to enter upon its thirtieth year, the Association enjoys a vigorous maturity. But, while it has been growing in strength, the lamented death, in 1875, of Mr. John G. A. Prim brought double toil to his fellow-secretary, the Rev. James Graves, whose health gave way under the pressure. Although much restored, Mr. Graves feels unequal to the resumption of editorial duty, and the time has arrived, it is felt, for a change in the management and, inferentially, in the place of meeting of the Association. Although founded at Kilkenny, the Association belongs not to that city exclusively, but to Ireland. There is no prohibition, either in its rules or constitution, of the fellows and members assembling in a new locality, and therefore, at the regular quarterly period, Wednesday next, a general meeting is summoned at the Royal Institution, Cork, when it will be proposed that his Grace the Duke of Leinster be elected President in the room of the late Very Rev. Dean Vignoles; that Dr. R. Caulfield, F.S.A., already Honorary General Secretary of the Association and assistant editor, be appointed editor of the Society's *Journal*; and that the periodical meetings be held in the city of Cork, where the *Journal* will be henceforth edited."

### THE RULE OF THUMB.

Jack Plane is a chiselling fellow,  
And fond of sharp-edged tools,  
But ere he reached middle-age mellow,  
In working, tried many rules;  
Still Jack he has an old liking  
He seldom can overcome,  
And often, in working and striking,  
He works by the Rule of Thumb.

Jack Plane is speedy at making  
House-sashes and panelled doors,  
But slower at "springing" and "raking,"  
And careless of tell-tale scores.  
But nature, we know, is nature;  
His he and haw and his hum  
Show just "the drop of the creature"  
He loves like the Rule of Thumb.

Jack Plane is a man of feeling,  
And gifted with common sense,  
His life is one of plane-dealing  
Straightforward without pretence.  
He loves the ways of his fathers,  
And like them works out his sum,  
But still he experience gathers,  
Improving the Rule of Thumb.

Jack Plane for worse or for better  
Is no worse nor better than more  
Who stick to the very letter  
Of methods and ways of yore.  
But Jack has sons who are rising—  
Young chisellers nowise dumb,  
With a knowledge of "lines" surprising,  
To laugh at the Rule of Thumb.

H. C.

### THE LATE G. P. BIDDER, C.E., F.R.S.

THIS well-known civil engineer, who died at his residence, Ravensbury, Dartmouth, on the 20th ult., attracted much attention in his youth, and was known as the "calculating boy," from his mental power at figures. He was the son of a stoue mason, but through the kindness of a friend he was enabled to receive an education at the University of Edinburgh. He was associated for years with the late Robert Stephenson in his public works. After a short engagement in his early life he was next for sometime employed upon the Ordnance Survey. Mr. Bidder superintended during his career several important works in connection with railways and docks, and took part in many of the works in which the two Stephensons were engaged. He was one of the founders of the original Electric Telegraph Company. He was for many years a member of the council of the Civil Engineers, having joined that body in 1825, and was president in 1860 and 1861. A paper by him will be found in the fifteenth volume of the "Minutes of the Proceedings" of the Institution of Civil Engineers, giving an account of his powers in mental calculations. Mr. G. P. Bidder was indeed during his life one of the "Men of the Time," and a very remarkable one. He was born about the year 1806, at Morclinhampstead, in Devonshire.

## AN EXTRAVAGANT SALARY!!

AMONGST the proceedings at a recent meeting of the guardians of Abbeyleix Union was the appointment of a clerk of works. The following is taken from report given in *Leinster Express*:-

Captain Bland said he had received a letter from Mr. Owen, stating as he had to be at Banagher fair that he could not attend the board, and asking him (Capt. Bland) to bring forward the motion which stood in his name. Mr. Owen pointed out in his letter that in Donaghmore Union the clerk of works was paid not by fixed salary but by percentage on the works, and that he was had at all times when required. Capt. Bland said he could not go with Mr. Owen in this. By paying a clerk of works a percentage it encouraged an increase of work, for the more work to be done the more the percentage would be. He was in favour of appointing a person at a fixed salary to draw up estimates and specifications, and see that they were properly carried out.

The Chairman was opposed altogether to the appointment, and thought the local guardians should be competent to see after the works in their district. If an engineer was wanted, let the electoral division who used his services pay for them.

Clerk—Who is to superintend the work, and the preparation of estimates and specifications?

Mr. Corcoran—You have Mr. Currie, a first-rate man, on the spot.

Chairman—And Mr. Townsend too.

Mr. Foster begged to second Capt. Bland's motion, that a clerk of works be appointed.

Capt. Bland—I would only put it to the board in the first instance that it is necessary to appoint a clerk of works.

Mr. Foster—Yes. I will second that.

Chairman—How are we to pay him?

Capt. Bland—Let the board first say whether it is necessary to make the appointment or not.

Mr. Foster—We are thoroughly at sea without specifications. We see contractors coming in here bungling and mending their proposals to do certain works on account of not having a specification. In the carrying out of the work there is a great want of supervision, and this thing is growing on us. It is not to be supposed that the guardians will leave their own business to look after every well. And, besides, are they competent to do it?

Mr. Leech—Mountmellick has a clerk of works, and there is great bungling there. They are going to lay out more in Maryborough now than ever they did.

Chairman—Their rates are 6s. 8d. now—enormous!

The Chairman reverted to his original suggestion about letting the electoral division pay for an inspector when they wanted him. They had Mr. Townsend always at their call.

Captain Bland—But you have to pay him a guinea a-day.

In reply to a question,

The Clerk said sanitary works were on the increase in the union.

Mr. Leech did not concur in that. On the contrary he thought a great deal of the work was over.

Clerk—You are sinking a pump at Ballycuddihy now, and there is no one to look after it.

Mr. Leech—Let the guardian look after it. He is no good if he will not do that.

Mr. Corcoran—But is he competent?

Mr. Leech—If he is not competent for that, he is not competent to be a guardian.

Clerk—I have an account here from Mr. Townsend for £44 for superintending works in the union since 1872. He is paid £1 for each specification, and £1 for each visit.

Chairman—It is well worth it; but I believe where he makes four visits in the one day to different places he only charges half a sovereign for each.

After some further discussion, it was resolved, on the motion of Captain Bland, seconded by Mr. Foster, to advertise for a clerk of works at a salary of £10 a year, the appointment in the first instance to be limited to one year.

## HOME AND FOREIGN NOTES.

The contract for re-building the Eddystone Light-house has been signed. The cost is not to exceed £67,000, and the work is to be completed within three years.

The Ulster Bank has declared a dividend of 20 per cent., and in addition has added 10 per cent. to the salaries of its officials, whilst a surplus of close on £7,500 is carried forward.

The enlightened Town Commissioners of Mullingar have by resolution passed at a special meeting of their body, as well as by huge placards posted through the town, expressed their disapprobation of the building of a Masonic hall, now in process of construction by Mr. Mellon, of this city. What next in this land of Liberty?

THE "STANLEY" SASH OPENER AND FASTENER.—This article has received "honourable mention" at the Paris Exhibition, 1878, class 66. A really serviceable and safe appliance of this kind has been long a desideratum. The "Stanley," by those who have had experience of its use in the sister kingdom, has been highly spoken of. Builders and householders in this country would do well to give the new appliance a trial.

JOINERY CLASSES.—The establishment of a workshop class for instruction in joinery, pattern-making, &c., which has been formed in connection with the Manchester Mechanics' Institution has proved so successful that the directors have in contemplation to organise kindred technical classes, a gentleman having offered his services in giving theoretical and practical instruction to a class of pupils drawn chiefly from house painters' apprentices and improvers, with a view to advancing them in the decorative department of their trade.

A banquet was given at Torquay a couple of weeks ago, to celebrate the completion of an important sanitary work, a new intercepting sewer having been constructed, by which the sewage of the town is conveyed to a headland two miles distant, and there discharged into the Channel. The sewer is altogether three miles long, and 6,400 ft. have been tunnelled through hard rock. The total cost of the work is £70,000. Sir L. Palk, M.P., Sir J. Kennaway, M.P., and Sir Joseph Bazalgette were present at the banquet; and the last-named, under whose advice the work was carried out, stated that there were few, if any, provincial towns which had undertaken more comprehensive, satisfactory, and complete works for the total removal of their sewage.

ROAD MATERIALS.—Amongst the patents taken out this year is one by Mr. J. C. Russell for paving of roads. Read the following as the compound proposed:—"Peat or tan, or both, is bruised or shredded and dried in chambers, and then placed in an air-tight boiler, from which the air is exhausted. Gas tar is admitted to the boiler, and when the material is impregnated, a combination of the following ingredients are added, viz., pitch, Stockholm tar, Trinidad pitch, naphtha, benzole, spirit of turpentine, quicklime, hydraulic lime, chalk, pozzuolana, well washed or sifted sharp sand, flint glass in powder, any aluminous, calcareous, or silicious minerals or mixtures, common salt, metallic salts, asbestos, boiled oil, Portland or hydraulic cement, slag or scoria! The whole is well stirred and heated!!"

"THE STEAM NAVY."—The railway navy is likely one of these days to be superseded to a great extent by one fed with coal and water, instead of beef, bread, bacon, and ale. The steam plough has been followed by the automatic rock drilling and cutting instruments, and now in the work of excavation in railways, docks, &c., the steam navy is being tried with some success. We need some further statistics before it can be pronounced whether in the cost of working, wear and tear of machinery, the steam navy is likely to soon supersede the present methods of hand labour, spade, pick, and shovel. Four engineers have made communications to the Institution of Civil Engineers, illustrating the construction and cost of working of the steam navy, but they widely differ in their estimates.

SANITARY INSTITUTE OF GREAT BRITAIN.—This congress opens at Stafford on the 2nd inst., and continues till the 5th. The *Builder* has no warm words of welcome for the society, as it considers that it is an endeavour to supersede the Health Department of the Social Science Association. It is said the exhibition of sanitary appliances "is a downright pillage of an idea carefully worked out and brought into action at all the recent congresses of the Social Science Association, mainly by Mr. James Robinson and a small committee, who sought sedulously to prevent the dominance of the trade element, and to make it subserve the public good." If this be true, we hold the *Builder* is strictly doing its duty to draw public attention to the fact, for sanitary congresses should not be utilised in the interests of "shops" for huge advertisements for traders' interests in selling their wares.

BUILDING CONSTRUCTION CLASSES.—Cannot some of our architects, builders, foremen, and clerks of works make an attempt in Dublin at forming a building construction class? Could there not be a

general class or classes for technical instruction formed in our Dublin Mechanics' Institute. We have thrown out the hint before, and a professional gentleman who has the capacities fitted for a teacher in this direction has volunteered his assistance through the pages of this journal. The artisan and middle classes in London are showing an example to other cities and towns. The City of London College has its technical drawing, machine, and building construction classes. Let Dublin architects, builders, and workmen, and employers generally wake up. We hope soon to see published some useful reports from the "artisan reporters" who were sent to the Paris Exhibition. The time has arrived for action.

GAS.—The price of gas in the city will be reduced by threepence per 1,000 feet from 1st January prox.

## NOTES OF WORKS.

TUAM CATHEDRAL.—This building, which has been under process of "restoration" during the past sixteen years, will, we are informed, be consecrated on the 9th inst. by the Lord Bishop of the diocese.

On Wednesday last the parish church, Mullingar, was re-opened after "restoration." The new works include a roof and the raising of chancel walls, together with chancel arch of Caen stone; new open benches; tiling of the chancel and nave and transepts. The widow of the late Dean Woodward has presented a handsome font, and two brass coronae are the gifts of Miss Barlow and the vicar. Mr. Thomas Drew was the architect.

The garrison chapel at Ballincollig, Co. Cork, has been recently decorated and improved at a cost of about £500, in memory of the wife of Capt. Wyndham Malet, R.H.A. Mrs. Malet was well known as the founder of the Guild of St. Helena for soldiers' wives and daughters, and was called to her rest on September 14th last year.

## TO CORRESPONDENTS.

O. AND SON.—Your pictures are very nice. Surely it is cruel to ask us to give you a gratuitous advertisement.

SENEX.—The system of wood pavement you describe would, in our opinion, prove the most expensive and unsatisfactory of any yet tried—it would never answer for this city.

AN ARCHITECT.—We will not bind ourselves to observe silence pending the results of some efforts said to be making for a reorganisation of scattered forces.

C.E. (Cork).—See evidence in the Blue Book re the Board of Works, the subject of some articles now in course of publication in this journal.

A RETIRED BUILDER.—We would have no objection to illustrate a few of the methods you propose. A whole series is, however, quite another matter, unless you bear a portion of the cost. Doubtless some of them would be publicly interesting, but a great many others mentioned would be only personally so.

A RATEPAYER (Drumcondra).—Write to Mr. Leonard, the newly-appointed engineer of the township.

WANTED.—Can any friend, reader, or subscriber loan us for a short time the volume or volumes of the "Transactions" of the first Institute of Irish Architects, established in 1839?

RECEIVED.—R. S.—M. B.—Q. C.—L. L. D.—An Artisan—R. H. A.—Ormond—A Lady—J. S.—M. D.—T. C., and others.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress in town or country. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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Illustration.

NEW WAREHOUSE, MERCHANTS-QUAY, WATERFORD.

Contents.

|  | Page |
|--|------|
| HOUSE FURNITURE MANUFACTURE .. ..                        | 291  |
| Irish Board of Works Administration .. ..                | 292  |
| New Warehouse, Merchants-quay, Waterford .. ..           | 294  |
| A Word to Building and other Workmen—A Plea for .. ..    |      |
| Drawing and Technical Instruction .. ..                  | 294  |
| Wanted to Know .. ..                                     | 294  |
| Verdict of Manslaughter against Railway Directors .. ..  | 294  |
| Howth and its Antiquities .. ..                          | 295  |
| Trades' Union Congress at Bristol .. ..                  | 296  |
| The Coleraine Guardians and the L. G. B. .. ..           | 296  |
| The Eddystone Lighthouse and the Mercantile Marine .. .. |      |
| Fund .. ..   | 299  |
| The Drainage of Fen Lands and River Conservancy .. ..    | 299  |
| Trades' Unionism .. ..                                   | 300  |
| New Science and Art Museum .. ..                         | 301  |
| Diffusion of Air in Buildings .. ..                      | 301  |
| Adversaria Hibernica—Literary and Technical .. ..        | 302  |
| Correspondence—  |      |
| The Christ Church Monuments .. ..                        | 302  |
| Return of Sewage Discharged into Tidal Rivers .. ..      | 303  |
| A Query for Handrailers .. ..                            | 303  |
| Gas versus Electricity .. ..                             | 303  |
| On Sanitary Co-operation .. ..                           | 304  |
| St. Mary's, Tuam .. ..                                   | 305  |
| The Timber Trade .. ..                                   | 305  |
| Home and Foreign Notes .. ..                             | 305  |
| To Correspondents .. ..                                  | 306  |

THE IRISH BUILDER.

VOL. XX.—No. 452.

HOUSE FURNITURE MANUFACTURE.



OUR contemporary the *Builder*, in its issue of the 5th inst., contains a very instructive and suggestive article, entitled "Some Abuses in House Fur-

niture Manufacture." From our own knowledge of the trade in Dublin for many years, and comparing large things with small, we must say that the statements made bear every evidence of truth. Here in Dublin for several years back in the cabinet and chair-making lines there is much to complain of, for the general opinion has long obtained that the furniture now turned out by our furniture makers is not at all what it was thirty years ago. The working cabinet and chair-makers have long complained of the importation of inferior English and foreign made furniture, which has not only injured a once prosperous Dublin industry, but has tended to injure their fair name for good and durable workmanship. It is an undeniable fact that for several years back English and French goods of an inferior description have been largely imported by most of our monster drapery establishments, who for some years have added furniture and upholstery supply to their articles in trade. But not only have the large drapery establishments imported furniture, but some of our professed cabinet manufacturers have done and are doing the same. As trade moves at present, competition must be expected; and we cannot object on narrow grounds to the importation of foreign goods.

Ireland itself is a large exporter as well as importer of various goods. What we do object to is the importation of "slopwork," come from where it will. Most excellent furniture is manufactured in London, and finds its way here; but at the same time no small amount of flimsily-made furniture—often unobjectionable in design, but wretched in construction or framing—is imported, and foisted on purchasers as "our own manufacture."

The early history of the cabinet, chair, and upholstery trades of this city is a bright and prosperous one, and many houses earned a fame which some of their representatives still maintain. The cabinet trade in Dublin was once a rather exclusive business, and it was no small difficulty for a poor workman to get his son apprenticed to it. For indoor apprentices a large premium was required by the masters, and when the apprentice was an outdoor one he had often to give from two to three years of his time free before he came under wages. This system is now all but extinct: the trades are open to all, and the branches are poor instead of prosperous ones. The day-work system that formerly obtained in the furniture-making trades is being gradually converted into the piece-work system. Indeed for very many years in the chair, couch, and sofa-making branches the piece-work system has been practised.

As for bedstead making—once a very prosperous branch,—the modern iron and brass mounted article is fastly superseding the article in wood; and these ornamental iron goods are, we believe, nearly all imported from across channel. A reference to any of our old Dublin Directories at the close of the last century and in the earlier years of the present century will show the large number of houses which were engaged in the furniture trade. Apart from mere furniture sellers and brokers, or the vendors of second-hand furniture, the cabinet and chair-makers, &c., of Dublin counted by hundreds, and the operatives engaged by thousands, all of whom were busily employed throughout the year. Henry and Mary streets, Stafford, Jervis, and Upper Abbey streets were great centres formerly in the cabinet trade; but before the close of the last century there were many large cabinet firms south of the Liffey, extending from Castle-street to St. Stephen's-green. Within our own memory the names of several respectable furniture-making firms occur to us who did a large trade in home-manufactured furniture. Stafford-street between thirty and fifty years ago was a busy and prosperous locality, and noted for the large and respectable houses of Williams and Sons, Scott, and Beakey. Some of these firms are still represented, but in a small way. The old firms of Strahan, Kearney, Morgan, and others, were long known as respectable houses in Henry-street, and the first of these still exists as a respectable furniture firm. Sparks, in Suffolk-street; Paisley, on Bachelor's-walk; and Arthur Jones, in St. Stephen's-green, were most respectable houses, and the latter still exists. We might name other firms who long maintained the dignity and respectability of their trade, some of whom have died out within the last quarter of a century.

The chair and sofa-making branches were mostly, in our memory, in the hands of small masters who manufactured for the larger firms, and they often were able to employ a number of operatives. The Dublin-made

cabinet and chair work of our younger days, whatever it might lack on the score of design, was excellently made. The wood was sound, and the parts were never framed until well seasoned, if the plank had not already been good seasoned wood. If one article in the furniture line more than another requires to be well made it is that of chairs and couches, which are subjected to constant and often severe usage. Good tenoning and mortising, close fitting and double dowelling in circular work where mortices and tenons are not advisable or difficult. Mortices and tenons are rightly dispensed with in circular work, where the parts of the framing become weak by being partly across the grain of the wood. But a double dowel (*i.e.*, two dowels) should always be used in any framing where strength and durability are looked for. Dovetailing and keying, or keyed dovetails, were formerly much used in circular work, both in cabinet, chair, and sofa-making, but in the slipshod, slop work that is now manufactured, nails and screws are often pressed into service, sunk and covered and deceptive methods resorted to to hide the reprehensible practice that would not some years ago be tolerated by any respectable cabinet firm. The above practices are strongly denounced in the article in the *Builder*, as also the frauds perpetrated in the upholstering branches. Here is what is written concerning the latter:—

"In connexion with chairs and sofas of the class we have been describing, the upholstery is wretchedly bad,—merely done up for the eye. Any stuffing, save good horsehair, or curled hair, is pressed into service,—pig-hair, hay, alva marina, flock, straw, finely-cut shavings,—anything but honest material. Canvas and web are, of course, used as of old, but of cheaper description; and the inevitable weak springs, to afford a temporary elasticity for a few weeks. Constant use soon brings on the dreaded calamity; the cheap American leather [or glazed cloth], or highly extolled inferior rep covering, cracks and tears a-under, and exposes the stuffing, and the seat sinks as flat as a British pancake."

True, too true, and unfortunately we have had personal experience of this furniture nuisance. Our contemporary points out very pertinently that while several other trades in the food and drink line are held amenable to the law for adulteration or obtaining money under false pretences, the furniture manufacturers or sellers escape "scot" free. We hold that unprincipled manufacturers and sellers of bad and deceptive furniture should be prosecuted, more particularly when any of them are found palming off articles of furniture described as made of a certain wood of which they are not. In upholstering, too, if a seller deceives a purchaser by telling him a chair or sofa is stuffed with good curled hair, or the covering is what it turns out not to be, in these cases we contend it would be the bounden duty of the purchaser to prosecute the seller for obtaining money under false pretences.

The timely exposure of the frauds of the London furniture trade will, we hope, lead to wholesome reform. What are the furniture trade organs of London doing that they are not alive to the abuses in the trade they represent? We are ready to give praise as well as these organs to the manufacturers of good and honest furniture, but we expect at least that the organs of the London furniture trade will fearlessly denounce the manufacture of slopwork, and the many frauds that are latterly cropping up in connection with the furniture and upholstering trades.

We have here in Dublin never ceased to

denounce the abuses of speculative or "Jerry" building, and we certainly will not hold our hands from inflicting merited punishment upon the makers or importers or exporters and sellers of slopwork furniture, whether they hail from London or Dublin. Badly-built houses and scamped joinery and brick-laying work are great evils, destructive of health and comfort, apart from the public robbery they involve. Bad and wretchedly made house furniture is also a great evil and a fraud, and we will not hesitate to denounce the traffic in it. The *Builder* particularises some East London localities as centres of the London furniture trade — streets containing a large number of furniture manufacturers, some of whom make unexceptionable articles, and others who deal largely in "slopwork." Many of these large warehouses appear to be supplied by chamber, or small masters, who also employ a number of hands. Some of these large firms export largely to other parts of the three kingdoms and the colonies, and, as a matter of course, Dublin receives its quota of "slopwork."

Now we do not mean it should be inferred from what we have written that there is no "slopwork" produced in Dublin. We are well aware that there is, but it is mostly confined to the small sellers and brokers, and particularly in the second-hand trade who are also sellers of new articles doctored to give them the appearance of age and use. Good second-hand furniture, where it is really good and the work of an old and respectable house, is often preferable to new; but prime second-hand furniture is not often to be met with, while there is an abundance of the "modern antique" in the market, lime-washed, stained and varnished, and even with slight moth-eaten appearances, cunningly executed, and of which the death watch or other wood-boring insects are guiltless. There will be always "flats and sharps" in the world of trade as well as in music; but commend us to the dealers in antique furniture and articles of *vertù* of knowing every string upon the harp of human feeling, and of sounding it with effect. Credulity is coeval with the creation, and we fear it will exist till the crack of doom. Men and women are born to be deceived with their eyes open. It is not, however, to be expected that men and women generally can be judges of well-made furniture; but where they are not judges they should enlist the services of those who are, or otherwise confine their custom to long-established and respectable firms. Articles of solid mahogany are, of course, expensive, as also are those of other fancy woods. To good veneered work there can be no reasonable objection, so long as the deal, pine, or other ground or basis is sound and substantial, and the framing well executed. The general character, however, of the drawing and sitting-room suites that middle classes purchase from our furniture sellers must be pronounced flimsy, bad in materials, and worse in execution. Tables, chairs, and sofas, are intended for use as well as ornament; but furniture that walks asunder in a few months is neither ornamental nor useful. Such furniture is in fact lumber, and rickety and broken furniture is an eyesore and a great nuisance.

It is to be feared that "Jerry" building has led to the manufacture extensively of "Jerry" furniture, and, to effect a reform *pari passu*, both abuses must be attacked together. It becomes an important question

whether for the future wants of our homes the services of the architect will not be indispensable in designing and providing at least certain fixed and permanent articles of household furniture. To a small extent in some directions in the past and at present architects have designed fixtures in the furniture way in the better classes of houses. At present in our ordinary class of dwellings little more than *cheffoniers* or cupboards are fixed in the recesses of chimney breasts, and dressers and drawers in the kitchen. Wardrobes, too, are now becoming common, but are mostly of deal. There are, however, several other articles of household furniture which our house joiners can well supply under the directions of architects and builders. Library cases, glass cases, wardrobes, nests of drawers, sideboards, falling tables, and other useful articles of household furniture can be fixed in the many recesses of rooms, where they will remain as permanent articles of use and ornament. Indeed in substantial well-built houses, where the walls and partitions are thick, niches or recesses can be constructed in course of building, with a view of fixing in them certain useful articles of household furniture of mahogany and other woods. If this method were more universally adopted a good deal of the trouble of house furniture removal could be profitably avoided. A house to a purchaser or occupier should be something more than a mere carcass.

Architects and builders of late years have taken to providing conservatories, water-closets, bath-rooms, and other wants. They have need now to proceed a little further, and it is not unlikely that in doing so they will succeed in effecting a building and a furniture reform at the same time. A house when built under present conditions is but half provided, and the reasons are growing more cogent every day why it should not, as soon as the walls are plastered, be handed over wholesale to the elastic consciences of some furniture undertakers to deal with it as they would with a rich man's coffin or corpse, garnishing it with ghastly trappings at once a "mockery, a delusion, and a snare."

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

*Re* Building and Supplies, the Committee of Inquiry refer to the recommendations of Lord Lansdowne's committee, and the importance which it attached to frequent inspections of public works during their progress. The inadequate inspection that formerly obtained led in a measure to the appointment of the Assistant Commissioner of the Irish Board in 1873. The committee believe since that date the inspections have been more frequent as regards engineering works; still they express a doubt that even in the case of buildings the necessary inspections are not undertaken as frequently as they should. While buildings in the Dublin district and the more important works in the country have of late received better attention, the committee say that the minor and more ordinary works, more especially in the distant parts of the provinces, "still seem to be without sufficient inspection by one of the responsible heads."

In the matter of Supplies, from the evidence adduced we think the committee could not come to any other conclusion than what they have expressed in their report. The

subject of supplies, and how they are obtained and distributed, with all their surroundings, is dealt with at considerable length. In their opening remarks on this section of their labours the committee say:—

"We made a thorough enquiry into the system under which furniture, fuel, and other supplies are obtained and delivered to public departments by the Board of Works, and we have come to the conclusion that the means which have been hitherto adopted by the Board for controlling this branch of their expenditure are not satisfactory. The aggregate supplies controlled by the Board are estimated to cost about £45,000 a-year."

The system is classed under three heads:—1st. Contract after competition; 2nd. By contract without competition; and, 3rd. Without contract. It will interest the general as well as the professional reader to know the principal items supplied to the Irish Board of Works under the above systems. In the first-named the materials supplied by contract (after competition) are those connected with building, painting, glazing, paper-hanging, &c., as also fuel, bedding and linen, brushes, &c., and the annual value of the above is estimated at about £29,000. The principal items supplied by contract (without competition) are plumbing and fitters' work, gasfittings, canvas, nails, gravel, &c., and their annual value is put down at £6,500. The principal items supplied under the third heading (without contract) are furniture, ironmongery, china and glass, implements and machinery, carpets and mats, &c., and their annual value is about £9,500.

Now, the public have reason to open their eyes and to express surprise when they are told that to about one-third of the expenditure the system of contracts is not at present applied at all; "and we were told," say the committee, "by the architect that until recently the Board had contracts only for such work as building, painting, plumbing, &c." The evils or abuses that have grown from not adopting the system of tenders was apparent from the evidence of some witnesses:—

"We found," say the committee, "that in the one case the supply of brushes had been in the supply of one firm from 1857 to 1874, at the prices fixed in the former year; and that in the other, window blinds, cords, &c., had been obtained from the same firm for twenty-five years. In neither instance had the supply of the articles been made the subject of competition in the interval."

Such evidence naturally gives rise to the suspicion that jobbery was at work or certain influences were paramount. At the same time we are well aware, even in cases where tenders are sent in at stated times, no real competition takes place. We ourselves have known of instances in Government and other public bodies of the officials managing the obtaining of the contracts for certain favourite contractors, and aiding them in every way to hold and renew their contracts.

The schedule prices for building work in Government and other departments are not enticing items to many young or raw contractors; but there is a way of making them worth having to those who have once obtained them. The system of "extras" acts as a sweetener; and if scheduled work will not pay, the "extras" will. We could, were we inclined, show how public work is well paid for and badly performed, but we are not interested in injuring any official or employer of labour. We only desire to see reforms carried out, and honest systems of contract and supervision adopted.

As regards the Irish Board of Works, the committee in their report observe:—

"Both the Chairman and the Assistant Commissioner stated that they had for some time been dissatisfied with the working of the old system, and had been wishing to introduce more extensively the system of competition. We think, however, that in carrying the change into effect there has been unnecessary delay, as is exemplified by the case of the supply of brushes, to which we have referred. In that case it was decided in 1874 that directions should be given for the call of tenders; but the order was not carried out till early last year."

Respecting open and limited competition, the committee make the following pertinent remarks:—

"To some of the supplies, such as furniture, where the quality of the goods must be specially dependent on the manufacturer, it is considered that the system of open competition could not with advantage or propriety be applied; and we have no doubt there is much force in this consideration. It is, however, anticipated that the value of supplies at present obtained without contract, or by contract after a limited competition only, may without risk be reduced from £16,000 to £5,000. In these circumstances we think that if the present views of the Board are carried out, the system of open competition, which is so desirable, will be introduced as far as prudence will admit. We have, therefore, only to urge that as immediate effect as possible may be given to this change; and that in the case of articles which it is thought undesirable to offer to indiscriminate competition, a judicious selection of firms should be made, from whom tenders should be invited. No contract whatever should of course be made for more than a limited period, the length of which should be dependent on the extent to which the article in question is liable to a change in price."

In fairness to some contractors we might urge that circumstances will arise in which it would not be expedient or advisable for them to enter into an open competition or to take a contract, or contracts, unless they were guaranteed to them for a stated time. In supplying very large orders manufacturers and contractors are often obliged to expend a considerable capital in providing new plant and machinery. It would, therefore, not be worth their while, but a dead loss to them, to be deprived of a renewal of their contract at a remunerative sum; for in executing their first contract they might not cover much more than their outlay. Apart, however, from these contingencies, we hold that in all ordinary work, open competition is the best and most advisable course to adopt for the obtaining of supplies for the public departments, which supplies have to be paid by public moneys—moneys raised by taxation levied on the community in general.

In reference to par. 241 as to allowances to school teachers in lieu of repairs, recommended by Lord Lansdowne's Committee, Col. M'Kerlie in his "Statement" replies:—

"It has been from no omission or oversight that the proposition to give the national teachers an allowance for small repairs has not been acted on, but from a conviction arrived at by the Commissioners and Assistant Commissioner after a full consideration, that the results would prove unsatisfactory. Under the existing system teachers are authorised to have small and urgent repairs as well as whitewashing, carried out by local tradesmen, sending the bills to the district clerk of works, who takes the earliest opportunity of examining the work and certifying the bills if found correct. No inconvenience arises, nor is any more time expended than would be required if the allowance system was adopted, while at the same time under such a system there is every reason to apprehend that the repairs would not be duly attended to."

The Chairman of the Irish Board also answers:—

"In regard to supplies (par. 243) and the system under which they are obtained. I would beg to explain that from the time I took charge of the department it has been my object to amend the practice which I then found in operation, requiring tenders to be obtained for every article possible, obtaining samples where practicable, and seeing that the proper quality of goods was delivered. And to a great extent I have succeeded; my special

instructions to the Assistant Commissioner and Architect have been to that effect, as the returns show. The adoption of the system continues to extend, and if not yet complete it is due to difficulties which have presented themselves not easily overcome."

The committee (*Re Furniture, and Requisitions and Orders*) recommend a better supervision of requisitions required; they are not satisfied with the system under which orders are given to tradesmen, and no wonder need be expressed at this. They say:—

"According to present arrangements this officer [the furniture clerk], though he holds only a subordinate position in the department, has, subject it is true to a later check by the architect, the power of allowing tradesmen to fix their own prices for any article for which the Board has no contract. We consider this too great a responsibility to entrust to any subordinate officer, and that it places him in a position of considerable temptation as regards the tradesmen. Such temptation will, of course, be diminished in proportion to the extent to which it is found practicable in future to apply the system of contract. We do not think that the consumption of stores in public offices will be subjected to a sufficiently thorough control, unless a careful supervision is exercised over the clerk who has charge of examining and acting upon requisitions. It should, no doubt, continue to be the duty of this gentleman to keep accounts by which the consumption of any office can be tested. But the ordering of fresh stores is a different matter to checking the consumption; and we think that no delivering order should be sent to any tradesman for execution without the responsible signature of a superior officer, such as the Architect or the Assistant Commissioner, who should, by reference to the book kept by the clerk, satisfy himself that the requisition is such as may reasonably be complied with. We need hardly say, however, that by these remarks we intend to make no reflection on the present furniture clerk."

The Committee of Inquiry declare the present system of orders for delivering of stores is unsatisfactory, and they say the Assistant Commissioner seems fully alive to the fact. They recommend the establishment of a general store. The cost of small stores is estimated at £8,000 a-year, and it is thought by purchasing them in bulk, and checking them by comparison with the samples, a saving of 10 per cent. on these stores alone might be effected, which would more than cover the cost of establishing a general storehouse.

In the report of Lord Lansdowne's Committee the want of a complete inventory of furniture and other articles under the care of the Board of Works, was pointed out; but five years have elapsed and the Irish Board have not carried out the recommendation.

"No private firm," says the late committee, "would venture for one moment to dispense with so ordinary a precaution as an inventory of what it is accountable for in its warehouses or out on hire."

This is considered a serious omission on the part of the Commissioners of the Irish Board. The committee say that the Board seem to have shrunk from the responsibility of asking for the extra assistance required to remedy so palpable a defect, and earnestly urge the adoption of the recommendation of the Lord Lansdowne's Committee. We thoroughly agree with them that—

"The necessity of establishing without delay so ordinary a safeguard as an inventory of property, the aggregate value of which is estimated at a half million of money."

We cannot follow in detail other matters in relation to furniture and furniture allowances, and the expenses incurred in the furniture supply and removals that take place at the Viceregal and Chief Secretary's residences from time to time, and more particularly at every change of government. Much needless cost, however, appears to be incurred. The recommendation of Lord Lansdowne's Committee is endorsed as

regards Viceregal residences, and the committee add:—

"It appears to us that the annual removal of furniture from the Viceregal Lodge to the Castle is an inconvenience to which the Lord Lieutenant should not be exposed, and which mainly might be obviated in the way indicated by the last (Lord Lansdowne's) Committee."

Col. M'Kerlie in his "Statement" makes the following explanations respecting inventories:—

"With regard to inventories, it is a duty I owe to myself to point out that two or three years before the sitting of Lord Lansdowne's Committee, I drew the attention of the Treasury to the subject, pointing out the want of proper inventories, and the inability of the furniture clerk to prepare them, and asking at the same time for the aid of an assistant furniture clerk. These facts were brought under the notice of Lord Lansdowne's Committee, and the correspondence, I think, laid before him. In the schedule of the re-organisation staff, however, no provision for an additional furniture clerk was made; and, having regard to the general tenor of the correspondence which then took place with the Treasury on the general question of the staff, the Board did not think it then proper to press for the appointment. On the appointment of a new furniture clerk, which took place shortly after, on the resignation of the clerk—who at that time endeavoured to perform the duty—special instructions were conveyed to him through the Assistant Commissioner—in whose branch the duty lies—to proceed with the making out of new and perfecting of former inventories with as much expedition as possible, and to a great extent he has done so. Heavy and increasing pressure of work has, however, prevented their being completed, though not being overlooked; and the applying for additional assistance had in fact been decided on before the inquiry now being referred to."

The committee speak strongly on the loose system in regard to the supply of fuel, and the insufficient check exercised. A great laxity in the supervision was evidenced over a class of expenditure estimated at £8,000 a-year. Frauds in the coal supply have long existed, and some of them were detected. The committee say—

"There may have been a certain remissness in this case on the part of the clerk for fuel and light, but the remissness, we think, was aggravated by there being a want of proper supervision over the officer. He appears to have been until recently only 'under the general superintendence of the architect,' and to have been given too general an independence; and, though this defect has now been remedied, we think the board are to blame for having so long left one of their officers so much his own master."

The past coal supply would appear from the evidence to have been often inferior in quality and short in quantity. An expert or clerk with a knowledge of coal is recommended for the future, and good bulk samples from each mine. Colonel M'Kerlie, the chairman, in his "Statement," says in the matter of the supply of fuel the Board have done their best to ensure the service being economically and satisfactorily carried out. He points to a considerable saving already effected, and admits the fraud in 1875, in which the coal porter, a subordinate servant of the Board, was concerned, and dismissed. He knows of no other case, but he states the result of that fraud and detection led to a complete revision of the regulations. So far so well, but the detection of the coal frauds was not made known by the fuel clerk or by any of the officers of the Board; and it is clear in this case that the Board has been very badly served by some of its own servants, who have too long been allowed to be pretty much their own masters.

We have now reached the subject of "Tenders"—a very "tender subject" in sooth in regard to building works and the supply of building materials. We must stop here for to-day, as we might be tempted to speak

strongly and at length upon a subject which would need an article to itself, it is so suggestive in many ways. We will, however, in our next article in connection with the remarks of the committee have something to say on the "tender" subject, and the building operations under the Irish Board of Works.

#### NEW WAREHOUSE,

#### MERCHANTS'-QUAY, WATERFORD.

We publish herewith an illustration of a new warehouse about to be erected for Messrs. Power and Co., Merchants'-quay, Waterford. The ground storey will be of Bagnalstown granite, Portland stone being used for carved work of capitals and cornice, and the balcony of first floor. The upper storeys of the front will be of Curraghmore red brick-work, black bricks being sparingly used in key-stones of arches, &c. The cost of the front portion of the premises is estimated at £2,000. Mr. W. G. Doolin, B.E., of 20 Ely-place, Dublin, is the architect. The original drawing appeared in this year's exhibition of the Royal Hibernian Academy.

#### A WORD TO BUILDING AND OTHER WORKMEN.

##### A PLEA FOR DRAWING AND TECHNICAL INSTRUCTION.

We would once more appeal to our artisans in our Irish cities and towns, and particularly here in Dublin, to establish without further delay drawing, building, and other mechanical classes for practical inculcation in the principles of their trades to their brother workmen and the younger members of their crafts. In several of the cities and towns of the sister kingdom the artisans are helping themselves, and are in some cases receiving substantial external aid and sympathy. Is Dublin going to remain always a laggard among cities in the matter of practical education and technical knowledge as applied to the industrial arts? Surely, for very shame sake, our Dublin artisans ought to make a move to lift their order up, and maintain the credit that in former years belonged to handicraft. With the increase of art and scientific knowledge on the continent there is danger for our home trade. We cannot expect to compete with technically-educated artisans if we do not acquire the same knowledge ourselves and apply it in practice.

There can be no valid excuse advanced by Dublin artisans in the building and other branches for not combining one with another, or apart, for lifting their respective trades above their present dead level, and lifting, at the same time, the workmen who are depending upon the practice of their crafts. We have a Metropolitan School of Art in Dublin in connection with the South Kensington Department, in which young men—artisans and others—can, at a small cost, acquire a knowledge of architectural, mechanical, and freehand drawing. Apart from this school, however, could not the young workmen combine for the establishment of evening classes for drawing and building construction, &c., to be held in the rooms of the Mechanics' Institute, or elsewhere? We think the directors of the Institute should at once take steps for paving the way to the opening of such classes. A quarter of a century ago and upwards there were very good drawing classes in the Mechanics' Institute, and for a time they were fairly attended.

We know some young men—artisans, clerks, and others—who obtained a respect-

able knowledge of architectural and mechanical drawing by attending these classes. Indeed we could mention the names of some workmen who attended these classes who subsequently held respectable appointments as foremen, clerks of works, and managers, in which situations the knowledge of drawing they had obtained was of the utmost importance to them. We know other men who were members of the Mechanics' Institute, and obtained a knowledge of science and drawing within its walls, afterwards becoming writers on the professional Press of the sister kingdom. There are professional gentlemen—architects and engineers—at present in our midst anxious to assist our building and other artisans to put such classes as we have pointed out in working order, if only the workmen themselves will come forward.

We would seriously ask our young building and other workmen to consider our friendly advice, and if they do they will in after years be glad they had done so. Classes for technical instruction could be formed this winter in the rooms of the Mechanics' Institute, and be in good working order before next spring. If two or three dozen of names of workmen who are anxious and ready to commence architectural and mechanical drawing be forwarded to our office, we will promise to do our best, and without delay, by giving a practical embodiment to the workmen's wishes. Surely the young men belonging to the carpentry, bricklaying, stone masonry, ironfounding, brassfounding, and other metal working branches—not to speak of other trades—are many, and ought to be sufficiently alive to the value of drawing and technical instruction as applied to the practice of their trades.

#### WANTED TO KNOW.

I WANT to know how many members of the Dublin Corporation have shares in the Artisans' Dwellings Company, and who have also acquired house property personally or by deputy in the streets which are mapped out for widening and improvements?

I want to know how many salaried officers are quartered on the City Estate, and who owe their appointments to their relationship with our municipal representatives, and if nepotism is not yearly growing at the City Hall?

I want to know do the sanitary sergeants ever pay visits, unannounced, to the back yards, out-houses, and other premises in the possession of the members of our Town Council, and if they have discovered that certain members are great breeders of pigs and possessors of dunghills?

I want to know why the Corporation, through its engineer, does not compel the tramway companies to keep their portion of the road in a good condition, according to their contract; and how many wheels are within wheels preventing the proper legal steps being taken?

I want to know are not the City Hall, the Chamber of Commerce, and the offices of the Port and Docks Board, three points in the curve of a circle; but, if connecting them into a triangle, is there much difference in the length of their sides?

I want to know which of the three Dublin tributaries that enter the Liffey above Carlisle Bridge (the Poddle, the Bradogue, and the Camac), are the freest from sewage and manufacturing refuse; and if the borough engineer is aware of how and to what extent these tributaries are at present utilised for putting a variety of unmentionable things—animal, vegetable, and mineral—out of the way?

I want to know who looks after the drainage of the Royal Barracks, and the drainage

of other barracks, both in the centre and on the borders of the city?

I want to know what the commissioners of our new northern township are going to do for the purification of the River Tolka, and preventing its further pollution at the hands of millers, manufacturers, and distillers?

I want to know is it honourable for any public body to employ professional talent, and then, on a mere technical quibble, repudiate their liabilities; and, if an individual were guilty of such an act, would it not be called a swindle?

I want to know is there any efficient check on the ordering or distribution of goods and materials required by the Corporation; and if goods of the proper quality and quantity are delivered?

I want to know still further does an inventory of corporate plant and materials exist, and if the one class of tradesmen continually supply the goods, and if it is true that open competition is discarded?

I want to know am I likely to get plain answers to the above queries, or if it is not likely that no official is bound to criminate himself?

I want to know if it is not desirable that the public should know how the money goes? and, if it be, it is likely that I will shortly want to know several other important matters.

C. C.

#### VERDICT OF MANSLAUGHTER AGAINST RAILWAY DIRECTORS.

DIRECTORS of railways, and promoters and floaters of fraudulent schemes, companies, &c., have need to be more cautious in future. Men with long purses can afford to fight expensive legal battles, but the relatives of the maimed or killed are seldom in this position, and are often obliged to accept paltry compensations. The inquest on the people killed in the accident on the Cork and Macroom Railway has excited no little surprise in this country. We think the investigation clearly proved that portion of the line was in a bad and dangerous condition. The jury, convinced by the evidence adduced, returned the following verdict:—

"That the deceased, Michael Brew, James Rattray, and Thomas Kidney, were killed on the 8th of September, at Corragheen, by the engine of the Macroom train getting off the rails, and portion of the train being upset, owing to the defective state of the sleepers. We are of opinion that the directors, William H. Brassey, chairman, Sir John Arnott, Captain Rye, Charles Roycroft, Timothy Mahony, E. R. Mahony, William Harrington, and Denry Lane, with the superintendent, Frederick Lyster, and the walking ganger, John Flynn are culpably responsible. We think that John Flynn was the least culpable. We attach no blame to the deceased engine-driver, Rattray."

This is a rather stiff verdict, but it remains to be seen will it be sustained in another court. All the legal assistance that money can procure will, no doubt, be employed; but, whatever the issue, we trust that a wholesome lesson will result.

We perceive that the Society of Railway Servants in the sister kingdom have hailed the verdict as a just one, as hundreds of their members and fellow-workmen are killed yearly by railway accidents which it is alleged are caused by the neglect of railway directors not providing for the due requirements of working their lines.

*Apropos* to the above, a statement appeared in last Saturday morning's papers that a summons, at the instance of the shareholders of the Huntingdon Copper Company, was applied for and served upon each of the original directors and promoters. The sum sued for is £150,000, and the grounds upon which the action is raised are that the directors and promoters floated the concern by false and fraudulent representations. The list of directors includes Sir James Bain, Sir John Arnott, the Hon. Lucius S. Harrington, and others. Verily the atmosphere of speculation is getting hot for some chronic directors and promoters.

## HOWTH AND ITS ANTIQUITIES.\*

THE concluding remarks of the leading article of the IRISH BUILDER of 1st inst.—containing, as they do, valuable advice to the architectural student—should not be passed over lightly by either the younger or older members of the profession; but it is to be feared, from the paucity of articles on the subject in the professional press, that there are few who care to pay visits to the remains of the works of other days, although a holiday thus spent would well repay the trouble. For some years it was one of the writer's methods of pastime, to which he devoted Good Friday, the Queen's birth day, and any other holiday that twenty years ago was allowed by a paternal Government to its civil servants; and in this way he visited and made measurements of nearly the entire remnants of antiquity left in his native county.

Taking the Ordnance maps for his guide, he would set out on a ramble, with a sketch-hook, 10-ft. rod in his hollow walking stick, and small measuring tape, and thus visited all that lay within his pre-arranged excursion. Sometimes he met with disappointment,—as one day, beyond Mulhuddart, in seeking for the ruins of two churches marked on the map, he merely found the slightest evidence that there had been buildings, the sites of which were long since all but obliterated. However, the unique "Lady's Well" and remains of the old church at Mulhuddart, with the Castle of Dunsoghly, and St. Margaret's Church and Plunkett's Chapel, well repaid that day's fatigue; and he was prevented by this experience from depending too much on maps for his itinerary.

Following the good example of the Superintendent of Monuments, but without in the slightest accepting his *ipse dixit*, we will enquire into the etymology of Howth, and call to our aid the erudition of Dr. Joyce and others who have given the matter sufficient study to be relied upon as authorities. Mr. Joseph Huband Smith, in his interesting little brochure, "A Day at Howth," published in 1857, says:—"Its ancient Irish name of Ben Edar (BEN EADAR), derived from that of the hero Edar (said in ancient Irish traditions to be brother of Breagh, from whom the twin headland of Bray on the opposite shore of Wicklow obtained its name) well indicates its hold position as the headland against which the waves of centuries have broken, indenting its rocky shore with many a cave, the haunt of the seals and sea birds. In ancient records this promontory has been designated by the names Hofda and Houete; and finally, in modern times, by that of Houeth or Howth—all clearly derivable from the Scandinavian 'hö fud or hovea,' a headland, and appropriately given to this place by the Danish or Norwegian inhabitants of Dublin." Dr. P. W. Joyce, in the "Origin and History of Irish Names of Places," referring to the map of Ptolemy, thus writes:—"There is one very interesting example of the complete preservation of a name unchanged from the time of Phœnician navigators to the present day. Just outside Eblana, there appears a small island which is called Edri Deserta on the map, and Edrou Herémos in the Greek text, i.e., the Desert of Edros, which last name, after removing the Greek inflexion and making allowance for the usual contraction, regains the original form Edar. This is exactly the Irish name of Howth, used in all our ancient authorities either as it stands, or with the addition of Ben (Ben Eadair, the peak of Edar)." And again: "According to some Irish authorities, the place received the name of Ben Edair from a Tuatha Do Danann chieftain, Edar,

the son of Edgaeth, who was buried there; while others say that it was from Edar, the wife of Gaun, one of the five Fírbolg brothers who divided Ireland between them. The name Howth is Danish. It is written in ancient letters Hofda, Houete, and Houeth—all different forms of the northern word Hoved, a head (Worssæ)." Dalton adopts a different and rather strange etymology and derivation: he calls it Ben-na-dair, as he says "it is supposed from the quantity of venerable oaks that waved over its fertile declivities, and religiously shadowed one of those pagan altars or cromlechs which yet remain, and are, as he has elsewhere endeavoured to prove, attributable to a species of the Magian priesthood."

At first sight it may not appear to the architectural student who wishes for an acquaintance with the remains of ancient buildings of a locality, that he has any need to trouble himself with the etymology of its name; but on consideration he will find that there may be many instances in which the nomenclature will be a guide to, or at least suggestive of, the people, or original builders from which the style and probable date of the building can be evolved.

Of the more ancient remains at Howth, we have the cromlech or Fin MacCoul's quoit, as it is locally called, and Dun Criffan (DUN CRIFFAN), the former standing in a field at the foot of "Muck Rock," 2,500 ft. due south of the castle and 1,500 ft. from the long lane from Sutton. Fin MacCoul is supposed to have made Howth one of his military stations in the fourth century. Dun Criffan, on the outer portion of which stands the Baily Lighthouse, is by tradition fixed as the fortress and dwelling place of the monarch Criffan, who died, according to the "Annals of the Four Masters," in the ninth year of the Christian era, and is supposed to have been buried under some one of the many heaps of stones or cairns over Carrickhrack, and Slieve Martin, or not improbably under or in the great cromlech itself. Many years ago the cairn on Slieve Martin was opened in search of treasure, as it was supposed a part of the spoil which Crimthan or Criffan had brought with him on his return from battle against the Roman invaders in Britain, at a period when Ireland was a sanctuary for those Christians who fled from the Romish power, was there buried. However, these almost pre-historic matters cannot afford much gratification to the architect, nor food on which to exercise his pencil, or fill his note-book, and the writer will pass on to comparatively later dates. In doing so, he will call attention to the remains of some very ancient buildings on Ireland's Eye, erected, according to the opinion of the late Mr. Petrie, in the seventh century, when the three sons of Nesson, Dichuill, Munissa, and Neslug, flourished, and gave the name of Ionis MacNessain to the island at a very early period. This old church, which, when he visited the place in 1851, and again in 1857, was fast crumbling away (principally from the inroads of cattle), had the remains of a round tower and chancel arch. The western wall had been removed and the stones used in the erection of the Roman Catholic chapel at Howth, but an engraving of its doorway appears in Petrie's "Essay on the Round Towers of Ireland," at page 178, where he promised a description of the true history of this curious church would be given in the third part—alas! never published. It appears probable that other buildings of some extent were attached to these remains, and, as in 1235 the church was removed to the mainland by Archbishop Luke, it is likely that the precinct was deserted, but it is still called St. Nesson's Church, and is traditionally said to have long been the depository of a celebrated manuscript copy of the gospels, known as the "Garland of Howth."

The next building apparently in order of date is the very small church of St. Fintan, on the south of the hill, and on left side of the new road from the beach at Sutton. The windows are very small and (excepting that

at the east) appear of remote antiquity. The western gable supports a belfry, and there is little indeed to indicate the age of the building; but if the saint to whom it was dedicated was he whom Colgan describes as living at Iona till the death of St. Columba, when he returned to Ireland, the little church or oratory would date from the seventh century. This St. Fintan died in 684.

The Abbey of Howth, the most important architectural remnant on the peninsula, was erected by Archbishop Luke in 1235, and not in the fifteenth century, as stated in the report on National Monuments of Ireland; and although since then much has been done in the way of alterations, a great portion of the original workmanship remains, and much interesting data for the student. It is presumed that it consisted of two aisles having a large and triple perforated helfry over the western gable of the south, under which was the principal entrance. The aisles were divided by five square columns and one octagonal of the rude masonry of the time, supporting pointed arches which, after the lapse of six and a-half centuries, are still intact—for there is no evidence of what has been asserted, that the church erected in 1235 was simply a nave, and that to the northern side an aisle was added at a subsequent period. The church at Carrickhill, about three miles to the north, was built only as a nave, but although having a triple belfry very similar to Howth, was a mere parish church of small dimensions, whereas Howth Abbey was a building of much more importance, and suited to a large and aristocratic congregation. As in many churches built in exposed situations, the fenestration was confined to the gables, excepting perhaps a window or two on the land side of eastern or altar end. On the south side is the remains of a porch worthy of attention, especially as to the construction of its outer and inner entrances, giving examples of two dates perhaps a century removed, for it is well known that porches were not usual in the early Irish churches. The inner doorway (one of those originally belonging to the church, and thus having its date fixed as of the thirteenth century) is a circular arch of cut stone, having a series of voussoirs or ring stones to relieve it surmounting the architrave, whilst the outer door partakes somewhat of the pointed character, and has no ring stones over the arching members, which are of cants of unequal length but similar section springing at either side from imposts which are merely the ordinary quoins of the doorway. In the inner door the architrave is continued in long and shorts of equal section to the ground. The belfry is most interesting, and on its south side is preserved the original barge course of long and shorts—four long and three short (proving its erection to be prior to the sixteenth century),—a method of building not uncommon in many edifices of much more ancient date—at Monasterboice, for instance. Immediately over the point where the apex of the ridge met the wall, the width and thickness become reduced, a double weathering occurring in the reduction, and from this spring the two bell-ops of the storey, the third being in a second storey also but more slightly reduced and weathered. How this finished we have no evidence, but it is most probable that, as at Carrickhill, it had a battlemented top. The difference in the colour of the stone of which this belfry is built gives it a curiously marked effect, and makes the courses very distinctive. A not uncommon means of reaching the bells was provided in the thickness of the gable by steps within a parapet. It is not easy to arrive at the time in which the barbarism was perpetrated of making the two gables at either end into one, or how the interior was arranged. The plastering on the eastern wall in which was inserted a three-light window would lead one to suppose that a coved or wagou-shaped ceiling was introduced, as formerly in St. Mary's Church, Youghal, to which the line of the new roof was tangent. This is more apparent on the

\* Written expressly for IRISH BUILDER, by John S. Sloane, C.E., M.R.I.A., &c.

western end, where the plastering does not rise beyond such a line as this supposition would give. A rude arch was thrown across the top of the principal eastern window, to preserve the tracery from being injured or driven in by curious intruders on the burial place of the Earls of Howth, which is the former chancel end of the church, separated from the other portions by iron rails, but otherwise very much neglected.

There is no doubt that much can be effected by ordinary architects towards the conservancy of our National Monuments by judicious repair, and a general removal of weeds, ivy, and creeping plants; but all attempts at restoration should be rigidly avoided, unless in the replacing of a stone or piece of tracery in the position it formerly occupied; but even this should only be done with due consideration and in consultation with an architect who had made antiquarian research a part of his professional studies.

Of the other antiquities of Howth, the writer hopes to treat at a future time (but they do not possess the interest of these he has endeavoured to describe), and by doing so aid in furthering the advice of the editor that "it would furnish pleasant and useful employment for our young architects, archaeologically inclined, to pay visits in the summer and autumn months to some of the buildings repaired or under process of reparation at the hands of Mr. Deane."

### TRADES' UNION CONGRESS AT BRISTOL.\*

On Friday the President said he had been informed by the representative of the seamen who brought their case so ably before them on the previous day that their representation of the case of the Cardiff pilots had been productive of good results, as a telegram had been received from London intimating that the Board of Trade had directed commissioners to proceed to Cardiff to make an investigation.

Mr. Fitzpatrick (Liverpool), one of the auditors, presented the balance-sheet for the year ending September, which showed that the income amounted to £809 6s. 9d. The expenditure amounted to £702 16s., and there remained a balance in hand of £105 10s. 9d.

The debate on the constitution of the Parliamentary Committee, opened on Thursday evening, was resumed, the motion submitted to Congress by Mr. Kennedy (Glasgow) being that in no case should two representatives from one trade or one town be members of the Parliamentary Committee.

Mr. Patterson (Glasgow) thought it the duty of Congress to put the best men possible on the Parliamentary Committee, irrespective of the towns or trades represented, and for that reason he opposed the resolution.

Mr. Laird (Newcastle) moved as an amendment that the words "or one town" should be omitted.

Mr. Coulson (London) seconded the amendment, which was carried by 76 votes to 7.

Mr. Hunt (Bristol) complained that he had been at great trouble to prepare a paper on the sugar question, and that he sent it in the usual way to the standing orders committee. He had never heard anything of it until the previous day, when the committee informed him it could not be read, and that the paper was more fit for the Social Science Congress. He contended that he had an undoubted right to be heard on the matter.

Mr. Peters (Bristol) considered the Congress was wrong in not allowing one of their own class to read a paper upon a subject which largely affected the working classes. If the paper was fit for a social science congress, surely it was fit for a congress of working men.

Mr. Hopkins (Bristol), the secretary, moved that the present system of confining the labour of the inmates of reformatory and industrial schools to one or two industries is unfair in principle and ruinous in practice to the trades concerned. Their operations should be extended over as large a variety of callings as possible, so as to effectually prevent any unfair competition with, and undue pressure on, any particular industry; and all such rate-aided institutions, instead of being in the hands of self-elected and irresponsible committees, should be placed under the direct control of Government; and further, all such manufactures should be sold by public auction, or some fair means of assessing the fair marketable price of the goods; and that the

whole subject be referred to the Parliamentary Committee, to collect information and report on the subject next Congress.

Mr. Shorrocks (Manchester) seconded the motion, remarking that he was intrusted by twenty-seven different trades in Manchester to support the proposition.

The President read a telegram which he had received from the Rev. W. James, curate of Abercarne, to the following effect:—"Our heartfelt thanks for benevolent and seasonable contribution of £9 13s. 6d. for relief of distress here. I hope Congress will express its wishes that other communities may send us further aid. Destitution truly alarming."

Mr. Halliday next moved that the Congress was of opinion that a strict and searching inquiry should be made into the cause of the explosion at Abercarne, and also was of opinion that the time had arrived when the public should demand from Government that such an inspection of mines should be enforced as would secure the carrying out to the utmost extent the Mines Regulation Act of 1872.

Mr. Land (Newcastle-on-Tyne) seconded the motion, which was unanimously adopted.

Some further business having been transacted, the Congress adjourned.

On Saturday, the 14th ult., the final sitting of the Congress took place.

Mr. Hopkins read a letter from Mr. Samuel Morley, M.P., expressing his hearty wish that the result of their meetings might be to knit together the two great classes of employers and employed. A letter was also read from the curate in charge at Abercarne, acknowledging the receipt of contributions from the Trades Congress on behalf of the sufferers by the colliery explosion, and assuring them that the state of poverty there was truly alarming. He had visited houses on the previous day where nothing but starvation stared him in the face. A letter was read from Mr. J. Skimming, secretary *pro tem.* of the Universal Federal Workmen's League, enclosing a resolution of the council regretting the failure of the International Congress in Paris, and condemning the French Government for preventing the Trades' Congress taking place.

Mr. H. Broadhurst was unanimously re-elected secretary to the Parliamentary Committee. The Congress next elected, by ballot, the Parliamentary Committee as follows:—M. J. Burnett, London, engineers; Mr. Prior, Manchester, carpenters; Mr. Ball, Leamington, labourers; Mr. Burtwistle, Acerington, weavers; Mr. Slatter, Manchester, printers; Mr. Shipton, London, Trades' Council; Mr. Knight, Liverpool, boiler makers; Mr. Crawford, Durham, miners; Mr. Inglis, Glasgow, blacksmiths; and Mr. Fitzpatrick, Liverpool, Trades' Council.

Mr. Lindsay (Birmingham) moved "That this Congress, recognising in the co-operative movement a great beneficial means for the elevation of the working people, desires to express its hearty sympathy both in its distributive and protective aspects, and trusts it may further extend and develop amongst the people." As a trade unionist for twenty years, and a co-operator for eighteen years, he had opportunities of reviewing the work of both institutions, and he believed that while the trades' union protected them in their labours, the co-operative society enabled them to invest their small savings, and thereby accumulate a nice little capital which might be of great service to them and their families in old age.

Mr. Ball seconded the motion.

Mr. Davey (Gateshead) moved as an amendment "That in the opinion of this Congress the principle of co-operation, if fairly carried out, is calculated to improve the social position of the working classes, but that the system invariably pursued by the co-operative store system of reducing their workmen's wages below the ordinary employers of the district is detrimental to the best interests of labour. They would therefore request Congress to use its influence to induce co-operative societies to give their employés at least the average wages of the district."

Mr. Crabtree, attending the Congress on behalf of the Manchester Central Board, believed that the two institutions of co-operative societies and trades' unions ran in parallel lines. He knew there were many co-operative societies that were not paying high wages, but the principle, if fairly carried out, was to give a bonus to labour in addition to the average wages, whatever that might be.

On a division being taken there appeared 23 for the amendment and 39 for the resolution. The resolution was therefore declared carried.

Mr. Knight (Bristol) moved "That this Congress is of opinion that the twenty-third clause of the Poor-law Amendment Act is a great public wrong inflicted upon trades' unions and friendly benefit societies, and would urge upon the Parliamentary Committee the desirability of using their best endeavours to get the obnoxious clause repealed from

the statute book." He said the injustice especially presented itself in cases where a man, the member of a trades' union or friendly society, was afflicted with insanity and put into an asylum or workhouse, the poor-law authorities claiming every farthing due to him as benefit from his society, and applied it to his maintenance in the asylum. The husband and father, therefore, instead of having the benefit of his savings in the society secured to his wife and family, found that his family were obliged to put themselves upon the parish, and become inmates of the workhouse.

After further discussion, Mr. Knight altered his resolution by omitting the words "trades' unions," and the motion was then carried unanimously.

A resolution was unanimously passed, recommending trades' unions to do their utmost towards the representation of labour in Parliament.

Mr. Goddard (London) reported that on the Odger Testimonial Fund there was a balance of £802 out of the £1,130 subscribed, and it was deposited on interest for the benefit of the family.

After some complimentary votes of thanks the proceedings terminated.

### THE COLERAINE GUARDIANS AND THE L. G. B.

At a recent meeting of the guardians the chairman (Sir H. H. Bruce) read a circular letter from the L. G. B., in which they write:—

"In relation to the copy of the Public Health (Ireland) Act, 1878, forwarded to you for the use of the sanitary authority, on the 28th ult., the Local Government Board for Ireland have now to state that a digest and index is being prepared by their assistant-secretary, Mr. Wodsworth, for publication on his own account, together with a copy of the act itself. This act, which consolidates the contents of twenty previous acts, now almost wholly repealed, contains also many amendments of the sanitary law, and many additions to it, for a full knowledge of which reference must be made to the act itself; but it will be right to specify a few of the changes in the organisation of the districts, the incidence of taxation, and some other of the more material changes effected; and this it is now proposed to do in the order in which they occur in the statute."

Having concluded the reading of the circular, the chairman, in continuation, said—I do not see any great reason for us being thankful to the Local Government Board for sending us this paper, in the expectation that we shall purchase a number of volumes at 3s. 6d. each.

Dr. Traill—No; the act itself would be quite sufficient.

Chairman—Exactly. [To the clerk]—Write to the Local Government Board, and request them to send as many copies of the digest as they may think necessary.

Dr. Traill—If Mr. Wodsworth be publishing the digest of the statute on his own account, we could scarcely ask that we should be supplied with it.

Chairman—I think, if so, the Local Government Board should furnish a copy of it to every sanitary officer in the union, as well as one for the use of the guardians.

Clerk—I shall write to the effect of what you have said.

Chairman—Yes; and it would be no harm if you added that the guardians have no reason to be grateful for what they have got from the Local Government Board.

At same meeting the subject of the cost of coffins and shrouds for the paupers was brought forward.

Mr. Black (R.O.) submitted a list of people for whom he had provided coffins and shrouds during the half-year, the "quotations" ranging from 2s. 9d. to 8s. 3d. each.

Chairman—I have no doubt I shall be abused for saying so; but I think half-a-crown too much to pay for a shroud for a pauper!

Dr. Traill—If any person supposed to be a pauper dies outside of the workhouse, and another procures a shroud, he should be asked what he paid for it.

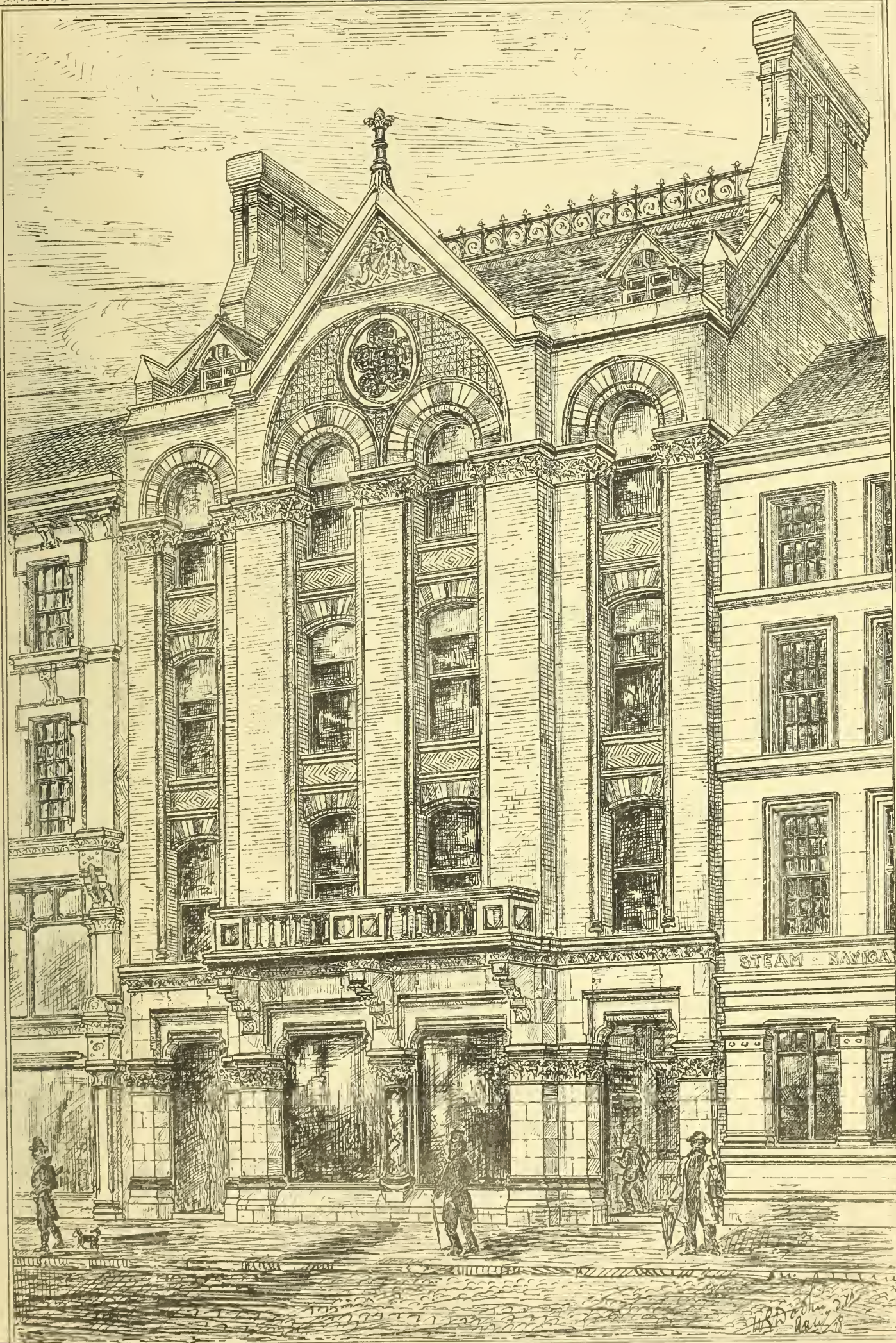
Chairman—Yes. Why should a shroud for one cost 2s. 6d., whilst that for another could be got for 2s. 3d.?

Mr. Black—That is because of the difference in size of the deceased persons; and I purchase the shrouding as cheaply as I can.

Chairman—What is the cost per yard of shrouding?

Master—Twopence for the shrouding used in the workhouse.

Mr. Holland—The wrong people have been supplied!!!



New Warehouse, Merchants' Quay, Waterford.

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## THE EDDYSTONE LIGHTHOUSE AND THE MERCANTILE MARINE FUND.

It is strange that whilst many of our sources of revenue are most niggardly dealt out, although jealously collected and watched in the most grudging manner when any call from Ireland affects them, immense sums are unblushingly lavished on every work for the interest of England. There is one fund to which we would wish to draw our readers' attention, viz., the Mercantile Marine Fund, which is a charge of a most vexatious nature made on the shipping of these kingdoms, collected at every port, and expended by the Board of Trade in the most erratic and incomprehensible manner.

As far as Ireland was concerned, until 1853 the fund was in the hands of the Ballast Board of Dublin, who had dispensed it with the utmost economy as far as consistent with the public interest; and, having erected on the coast about seventy lighthouses, and a large number of warning beacons, with lightships on dangerous sandbanks, and bnoys, had a sinking fund of £86,000, a new store steamship, and every appliance for carrying out the service, with a rapidly-accumulating means of throwing open the ports free to all comers, when their stock would have reached a sum sufficient, with a grant from the consolidated fund, to give a yearly income of about £35,000.

This diplomacy would not suit the ideas of John Bull. What! permit Irish ports to open to all comers without any taxes, unless indeed it might be those of the locality?—madness! "The Trinity House of Deptford Stroud is heavily in debt, and we must have that £86,000 to assist the poor brethren," as also that steamboat, and anything else we can lay hands on. No sooner said than done. A bill was run through Parliament, and from thenceforth the Ballast Board of Dublin was to become a mere agency for the Harbour Department of the Board of Trade. Since then, matters have been going on from bad to worse; the Ballast Office, under the name of the Port and Docks Board, retains all its ancient spirit and vigour, its officers are well paid and happy under its genial rule; whilst the branch to which the lighthouse management has been deferred, drags on a slow and painful existence, crushed by departmental rule, and unable to expend 4½d. without permission of the clerks in Whitehall Gardens, who, under a former clerk of a fortunate Law Lord, are presumed to be the Harbour Department of the Board of Trade.

If this department really carried out a fair and reasonable economy—if it were shewn that the pocket of the hard-worked mariner was really considered, and that no expenditure was permitted that was not consistent with his interest,—we could not complain; but we cannot shut our eyes to the fact that political prejudices are allowed to interfere in all that is done: that lighthouses for the good of the marine of the world will not be erected on the shores of Ireland; that fog signals of the most costly description can be imported for the lighthouses of England, but for Ireland anything is considered good enough, although it is not a local but an imperial matter. If a lighthouse or lightship is really required; if twenty years of memorialising and petitioning force the subject at last on the attention of our rulers; then a council is held. The Irish Commissioners are not permitted to know their own business, but the "Galatea" steam yacht with a select number of fogies from the Trinity House must come to have a ten minutes' peep at the place it is proposed to mark; and if, on a hint from "The Gardens," they find it expedient they report on the matter, and the English engineer and the Scotch engineer are sent to meet poor Paddy the Irish engineer, for fear he would be too lavish with his estimate, or use cut stone where rubble masonry would suffice (for Ireland), or probably that new abomination for such works—yclept "*concrete*." Even in the comparatively smaller matter of the clerks' pay this

prejudice is seen in glaring colours—in fact, it pervades all expenditure; and the humble lightkeeper is not outside its influence. The Irish engineer (lately retired), having completed all the lighthouses likely to be erected for another half-century, and leaving little or nothing for a successor to do, finds that successor appointed with a salary of £300 per annum more than he enjoyed from those who are so careful of the Mercantile Marine Fund that they could not possibly alter her Majesty's order in council for a mere Irishman, but can strain a point to give the Newcastle man a salary increasing by £25 per annum to £900 per annum. So much for the conservancy of the Mercantile Marine Fund!

We would now call our readers' attention to an expenditure about to be perpetrated, without, it appears to us, sufficient cause, viz., about £180,000 for a new lighthouse on the Eddystone, the contract for which has been taken at £167,000, to which of course must be added engineer's fees and supervision, lantern, lighting apparatus, and a lot of *et ceteras*, which will, no doubt, swell the amount to what we have named. We would wish to know, you know (not that we are at all curious, and would be sorry to disturb the equanimity of Lord Cairns's *protegé*), but, like Rosa Darlie, we want information, who was consulted as to this expenditure? Were the Commissioners of Irish Lights or the Commissioners of Northern Lights? Were the Stevensons, the engineers of the Northern Lights, or Sloane, of the Irish Lights, brought there to give their opinion? We believe not. Then, in the interests of the mariner and the Marine Fund, we would wish some Irish member in his place in the House to ask for the authority for this immense expenditure, in the absence of opinions as to whether the rock could not be underpinned, as in the case of the Hawboline Rock at Carlingford.

Why should the Eddystone be rebuilt at an expense of £180,000, and the Tuskar left, with the antiquated lantern and lamps of sixty-five years ago? Why has there been no lighthouse erected on the Coningbeg Rock? What about Fanad Point and the Limeburner, and the south-west side of the Fastnet, hastening to slow but sure destruction? and why has the Horse Rock beacon at Court-macsherry never been completed? But what is the use of multiplying cases? The answer is patent to all, viz., they are Irish—mere Irish—and so long as twenty-one citizens of Dublin can be found content to transact the business of Whitehall Gardens without fee or reward, so long will this injustice be perpetrated. If the matter is worth doing it is worth paying for, a fact long since discovered by the Trinity House of London, for corporations, like individuals, gain in respect, in the ratio of their price, and whilst the Irish Board are not permitted an outlay of £80,000, to erect a lighthouse on Coningbeg, the English Board can expend £180,000 on the Eddystone. We will, however, resume this subject at the next sitting of Parliament, and will (if we cannot do more) at least remind some of our patriotic members of the necessity for enquiring into how the Mercantile Marine Fund is expended.

## THE DRAINAGE OF FEN LANDS AND RIVER CONSERVANCY.

IN the Mechanical Science Section of the British Association, Mr. W. H. Wheeler read a paper on the "Drainage of Fen Lands" considered in relation to the conservancy of rivers. Having pointed out the evils arising from divided administration in reference to the flooding of the river, he argued in the first place that our rivers should be so altered and adapted as to receive and carry off the rainfall in floods, and during the periods between the floods to discharge the ordinary supply, so that the channel might not be choked, and yet be made available for storing a supply of water. In order to procure united action in the administration, all the principal rivers should be subject to one general conservancy board, having the control of the river from the source to the outfall. The water-shed should be divided into local districts managed by boards elected by the ratepayers, the general con-

servancy board being elected from the district boards. Finally, all the lands lying on the water-shed, in towns or in rural districts, should contribute to the common fund, according to their rateable value.

The Section next took up the discussion of the six papers on the subject of river drainage, which had been read the previous day.

Sir John Hawkshaw expressed his satisfaction at the unanimity among the various writers; but the most valuable contribution upon the subject would be the statement of the successful treatment of some particular river, for each river would have to be studied specially, and very often dealt with after a special method. With regard to legislation, much good would be done by indicating the direction in which legislation should proceed, and reducing the expenses of it. A little gentle pressure might also be sometimes used; but it would be a calamity if, instead of working as far as possible locally, they were to look to the Government to manage these matters for them. At the same time there might be cases where towns were very much injured by floods or rivers, deteriorated by pollution, where the interests were so complex that without some force perhaps exercised by Government some of these things might never be mended. He entirely concurred with all the writers that a better supervision of rivers was necessary.

Mr. Robert Manning also expressed his general concurrence with the different speakers as to the necessity of better supervision. The law in France expressly forbade the discharge of filth into the Seine, and the sewage of Paris was all discharged on the plain of Gennevilliers. As to an observation of Mr. Parke Neville that the Shannon drainage was a deplorable failure, he was prepared to show that it was not.

Mr. John Smyth urged the importance of having reservoirs provided as far as possible for all rivers and tributaries, not only for sanitary purposes but for mill purposes, and for the supply of towns. It was singular that the Bann was the only river in Ireland on which that had been done to a very large extent.

Mr. James Price observed upon the effect upon the climate of Ireland generally of want of drainage, and said he thought it could be satisfactorily proved that this country suffered a loss to the amount of at least three degrees of summer heat in consequence of the large quantity of undrained land in the basins of the Shannon and of the Erne, which acted, as it were, as the envelope of a wet bulb barometer and wasted the rays of a summer sun in evaporating the water, whereby the summer heat of Ireland was reduced by two or three degrees, which was a very important item when we regarded the heat required for the ripening of crops. Therefore, all within a drainage district were benefited by a general system of drainage. It was plainly impossible to regulate a river with fixed weirs only, but he expressed his surprise that with the great fall of 700 ft. along the length of the River Liffey, and with mills all along it, the waters of the Liffey should not be retained in a reservoir and let down by degrees—say at the rate of 52,000 gallons per day. The thing was so very obvious that he could not but think that this was why it was not adopted. He believed that if this plan were adopted the nuisance of the Liffey would be completely at an end. He had no doubt that the increased water-power given on that fall of 600 or 700 ft. would far more than pay the interest on the outlay.

Mr. Law concurred in the advisability of putting rivers under more general control, and commented on the inconvenience caused by the divisions under the English Public Health Act, being the arbitrary political ones of Poor Law Unions.

Mr. Park Neville said as to the plan of flushing the Liffey by means of the reservoir he could not see how such a body of water could be brought some fifty miles through a tortuous river merely for the purpose of scouring the channel. As to the time for letting it off or controlling it, having the mills to deal with at the same time, he did not think it would be possible.

Mr. Symonds said there was no doubt that the bulk of rains coming across the country could be telegraphed in time to clear the lower beds of rivers, so that the rains would find an empty channel instead of, as now, a full one. He agreed as to the mischief caused by the political boundaries prescribed by the Public Health Act.

Mr. Deacon and Mr. Ellis continued the discussion.

Mr. Kelly referred to the district between the Shannon and the Suck as the Mesopotamia of Ireland which was likely to cause as much interest in the engineering world as the Mesopotamia of the East was likely to cause in the political world in the future. He complained that the interests of navigation were foolishly made subservient to minor interests there. As to the proposal to tax

lands at the source and at the outfall of rivers equally, he ridiculed the notion of a bailiff levying a distress on the Himalaya Mountains to pay for a weir at the mouth of the Jumna.

Captain Douglas Galton thought the time had come for the legislation suggested by the president.

Mr. Bindon B. Stoney said the feeling in favour of legislation was unanimous. He thought the water-power of Ireland was overrated. To his knowledge—in the west especially—the water-power at a particular time of the year was very great, and at other times it was very small, and it was sometimes cheaper to have a steam-engine working all the year round than to have steam at work half the year and water for the other half.

The several authors replied, congratulating the section generally on their unanimity and on the prospect of legislation.

Mr. Easton closed the discussion.

### TRADES' UNIONISM.

"THE Social Aspects of Trades' Unionism" was the title of a lengthened paper read in the Economic Science Section of the British Association, by Mr. J. H. M. Campbell. We make room for some portions of it:—

The time seems almost to have arrived when all further attempts by argument or abuse to overthrow trades' unions must cease, and these associations be recognised as a powerful existing feature of our social economy. Originated with most feeble resources and limited numbers, they have outlived the fierce hostility of capitalists, the express prohibition of the Legislature, and the crimes and excesses of their more reckless and ignorant adherents, until they have assumed the form of an organised confederacy embracing the bulk of our industrial population, and strong alike in numbers and in wealth. This fact is in itself sufficient to show that, in the opinion of the working classes at least, trades' unions must have many advantages to recommend them for such a large measure of support. In former times the workman in his isolated condition was entirely at the mercy of his employer. Compelled by his necessity for immediate employment to accept any wages he could get, with no resource but the poorhouse in times of depressed trade, sickness, and old age, exposed to the unlimited competition of his fellow-workman, and in many cases, as Adam Smith tells us, to the combination of employers in absolute ignorance of the state and conditions of the labour-market outside his own district, is it any wonder that he should become an enthusiast for a system which places him in a position to secure better terms in bargaining with his employers when backed up by the united voice of his fellow-workmen in the same trade, which contributes to his support when out of work as well as provides for his bodily and mental comforts in many other respects? . . . Trades' unions are also invaluable to the working classes in so far as they serve as benefit and insurance societies, and consequently render an important service to the community by lightening the strain upon the poor-rates and lessening the evils of pauperism, while much good is also done in the same direction by their provisions against intemperance—members guilty of intoxication being visited with heavy fines, and in extreme cases deprived of the benefits of the union. There are also few trades' unions of any importance that do not make some provision for the members or their families in the case of sickness, injury, old age, and death; while in many large sums are expended in assisting the migration of labour, not only within the confines of the same country, but also abroad. It is, moreover, to the persistent agitation of these unions, aided by the efforts of philanthropists, that are to be ascribed the many legislative enactments of modern times against the employment of women and children in unhealthy or too protracted labour, against the use of defective and dangerous machinery, and affording facilities for the erection of comfortable and well-aired dwellings. Not the least important benefit is the moral discipline and training that must result from working men being brought into closer intimacy with one another and the outer world, from being taught to sympathise with one another in their sufferings, and in their hopes, from careful discussion with one another upon the conditions and prospects of their trade, and from being encouraged to habits of sobriety, economy, and thrift. It is true that the early history of these societies contains many a page stained with the blackest crimes and the vilest excesses, of which the only palliation was that they were committed by men exasperated with an exaggerated sense of their social wrongs, and in the infancy of their attempt to raise themselves from the depth of misery and ignorance in which they had so long

been sunk. There is much to lead us to believe that these excesses are being gradually worked off when we consider the moderation that has of late years marked their conduct in some of their most severe conflicts with their employers, and the growing intelligence and truer appreciation of their position that is to be found among their leaders. Trades' unions, from the social aspect under which we have now been considering them, must be regarded as eminently useful and beneficial institutions, but they assume a very different aspect when examined with regard to that which is avowed to be their primary object, and to which all others are ancillary and subservient,—that of controlling the labour market, and regulating the amount of their wages. . . . Nothing could be more suicidal than the policy sometimes pursued of going out on strike to avoid a reduction of wages in times of depressed trade. At such times it is well known that many employers who do not wish entirely to abandon their business, are willing to keep their factories open, though it may be at a dead loss; but if the inevitable reduction of wages is resisted by the employers, the masters respond by a lock-out, and the trade is, perhaps, irretrievably ruined. The year 1877 affords a striking illustration of the truth of this statement, for, while the country was suffering from acute commercial depression, I find that in that year no less than 191 strikes occurred, the majority of which were intended, not to secure a rise of wages, but to prevent the reduction rendered inevitable by the state of trade, and were consequently disastrous failures. It has been argued by many that this depression is entirely to be attributed to the disorganisation of trade arising from the action of the trades' unions; but it is evident that the strikes were rather the consequence than the cause of the depression; and though they undoubtedly contributed to intensify and prolong it, yet its origin must be sought elsewhere. In the first place, it is well known that at periodic intervals, when the accumulation of capital has become so great as to render its profitable investment a matter of considerable difficulty, encouragement is given to over-speculation and consequent over-production in many industries; and the efforts of rival capitalists to sell in an overstocked market cause prices to come down with a run. Wages fall, manufacturers fail, and a general feeling of mistrust and depression prevails. Again, it is hardly a matter for surprise that the success which England achieved in competition with foreign countries and at home should begin in some degree to diminish. The monopoly of mechanical and industrial skill which she for a long time possessed, could hardly last for ever in the face of the heavy protective duties by which foreign countries endeavour to foster their own industries. There is, however, little doubt that foreigners may attribute a large share of any success they have obtained in this respect to trades' unions, for repeated strikes or the apprehension of them must make English employers very slow to undertake, and other countries to offer heavy contracts which may at any moment be left incomplete in consequence of a strike. Nor is this the worst, for if the plan which is at present in favour with the working classes for retrieving their position under the prevalent depression be prevailed in, there can be no doubt that English manufactures will be driven from the foreign market and our commercial prosperity seriously imperilled. I allude to the demand now becoming so general for shortened hours of labour. Now, few would venture to deny that a reduction in the hours of labour might be productive of excellent social and moral effects, by affording to working men greater leisure and opportunity for self-culture and improvement; nor is it any refutation of this opinion to point to the habits of intemperance that are still so prevalent among them during their hours of leisure, for the process of reform must necessarily be a slow one, and much is not likely to be effected in this way where ten hours out of the twenty-four are devoted to incessant toil. But when this question comes to be considered in its economic bearing, it should be remembered that every reduction in the hours of labour, unless compensated for by superior efficiency, is equivalent in its effects to a rise of wages, and, consequently, must either raise prices or lower profits. . . . Why, it is asked, should not the workmen limit the supply of their labour by working less hours, and thereby give others a chance of sharing in the amount of work, and consequently in the wages offered by employers? To this, as to all those regulations of trades' unions which, like their restrictions on apprenticeship, are for the avowed object of making work, the simple answer is, that it is never work that is deficient, but capital to give employment, and that the greater the total produce is the greater will be the amount saved and devoted to the subsequent employment of labour; so that it would seem to be a self-evident proposition that if workmen combine to do only half the

amount of work they are capable of performing, there will be only half the amount of wealth in the country that it is possible there should be, and, consequently, only half the amount to devote to the purchase of fresh labour. It is a melancholy fact that the efforts of workmen should be so blindly directed to controlling that which is, to a great extent, beyond their control, and regulated by economic laws—namely, the distribution of wealth; while in the matter of production, in which they are so vitally interested, and which in a great measure depends upon themselves for its total magnitude, they are either passively indifferent, as is proved by the loud and long complaints of employers about slovenly and careless workmen, or actively obstructive, as the rules of their unions too often testify. From the foregoing considerations I think it will be seen that the demand for shortened hours of labour, whatever form it may assume, is one that employers will resist to the uttermost, and in those cases in which the men have attempted to enforce this demand by a strike, the masters as a rule have retaliated by a general lock-out. When the conflict between labour and capital has arrived at this stage, the men have in almost every case been defeated, for no trades' union, however strong in funds, can compete with the wealth of capitalists, who can, moreover, better afford to wait, and have not that urgent need to employ their capital which the men have to sell their labour. But with what sufferings and privations of the working classes, and with what loss to the community, is such a victory achieved! It is often brought as a charge against trades' unions that they endeavour to fix a uniform rate of wages; but so far as it is sought to be obtained by legitimate means, it is an object that is eminently desirable. Nothing could be more disastrous to the working classes, or more destructive of all prudential restraints and the constant fluctuations of their wages. In so far, therefore, as trades' unions consistently with the state of trade endeavour to equalise the fluctuation of wages, they are performing a function eminently beneficial to themselves, their employers, and the community, and one closely allied to the service rendered by speculators who, in seasons of scarcity, by anticipating an advance in prices, prevent them from ultimately becoming too high while in seasons of plenty, by withdrawing supply, they check the rapid fall of prices, to the prevention of their ultimate recoil. The confident belief that the difficulties between capital and labour would find their solution in the growth on the system on industrial co-operation, has been but indifferently fulfilled. Co-operative societies established for purposes of distribution have in the majority of cases been attended with the most beneficial results, by securing to their customers commodities of a better quality and at a cheaper rate, as well as by abolishing the credit system, which has worked so injuriously among the improvident poor; but similar societies intended for purposes of production have, as a rule, been failures, or at least only succeeded by departing from the original principle by which the capital was to be held by all the members of the society, and the profits to be shared in a certain proportion between capital and labour. The equalisation of the losses when trade is bad, and the admittance of working men to a share in the management of the business, have been the rocks on which these societies have always split, and indeed it is evident that the extension of a system which would demand from our working men the unswerving attention and intelligent devotion to business required by the fierceness of sudden industrial competition, such economy and self-reliance as would accumulate the necessary capital and secure a provision for seasons of depressed trade; and above all, such a regard for economic laws and such an unselfish interest in the welfare of their fellows as would prevent mutual encroachment and oppression, supposes a higher standard of social and intellectual refinement than at present exists among them. Towards the creation of such a standard much has been done, and much is still doing by trades' unions; and if abandoning their more ambitious aim of controlling the destinies of labour, they contented themselves with supplying their members with accurate and reliable information of the state of the markets at home and abroad, and concentrated all their energies on the work in which they have already made such rapid strides, the social and intellectual advancement of working men, they will have earned the sympathy and respect of all right-minded people, and their successors will reap the reward in benefits to which they could never have attained under the baneful dominion of strikes.

Captain Verney, R.N., said they should all feel very much obliged to Mr. Campbell for the information conveyed by his admirable paper. The great object which they all should have in view was to avoid and how to avoid strikes. In his

opinion the great way to meet the difficulty was by arbitration. They must have the men represented on the one side and the masters on the other. As to the shortening of the hours for work, he wondered did those who opposed it know what real hard, grinding labour was? He felt deeply for the working classes, and he did not see what is the use of compulsory education unless they gave them some means of bettering themselves. This matter of shortening the hours of labour was of vital importance, and if it could be effected, the principle ought to be carried out.

Mr. Quill spoke in terms of commendation of the paper submitted to them. From the economic point of view, he held that the men were grievously injured. The condition of the working classes when trades' unionism first sprung up resulted from the deplorable condition of the *employé* in his relations with the employer. Even within their own memory the state of the working classes was deplorable, and it was not yet up to what it ought to be.

Mr. Saunders (*Central News*) held that the result of increased wages was to stimulate work. Whether for good or evil, trades' unionism was a fact, and it was likely to increase rather than diminish.

Professor Kavanagh spoke strongly in support of the case of the working man, but urged that the latter in maintaining his rights should never attempt to intimidate his employers. A great deal of misapprehension existed on the neglect, especially as regarded the action of Irishmen in trade disputes, and he mentioned the case of the recent strike on the Great Southern and Western Railway as showing how highly creditable was the conduct of the men during the prevalence of that dispute. He believed that workmen ought to be paid by results, by the profits of their own industry, and a direct encouragement should be given them to labour well and honestly for their employers.

Mr. Joseph Shepherd said he looked upon capital and labour as very much in the same relation as husband and wife. The word trades' unionism had a great terror for many or most of the better classes, and yet this ought not to be so; they ought to argue the matter, discuss it calmly, and on a friendly basis with the working man.

Mr. Campbell having replied at length, the thanks of the section were accorded to him for his paper.

#### NEW SCIENCE AND ART MUSEUM.

LORD Powerscourt draws attention to an extract from last Report of the Science and Art Department, which appears from a correspondent of a morning journal, as follows: "During the year all the collections of the Royal Dublin Society, except the libraries, have been transferred to the department, the land and buildings being vested in the Board of Works, Dublin. The committee state that they are anxious to commence the new Science and Art Museum, but that the work has been stopped, owing to the objections raised by Lord Pembroke and others to the use of the only available site in Dublin." Your correspondent (writes Lord Powerscourt) proceeds to say that "Lord Pembroke's objections should not stand in the way of the erection of the new museum." As one of the "others" I protest against the Science and Art Department putting the case in that way, and ignoring altogether the alternative scheme which was put before them when they suggested their plan to the council. They made a plan for a museum which they proposed to erect across the east end of Leinster Lawn. This was objected to by many, as blocking up the finest urban feature in Dublin, and we "others" approved strongly of Lord Pembroke's decision, as giving us a helping hand against the powerful department that wishes to erect a building there against the opinion of, at any rate, a section of the public here in Ireland whose objections to the disfigurement of Leinster Lawn may, I hope, be considered of some weight. I, among others, suggested and brought before the council of the Royal Dublin Society and the public the idea that the proposed museum should be erected on the site of the Agricultural Show Yard and the tumble-down old houses in Kildare-place, which are part of the premises of the society, and were until lately their property. Such a museum might enter from Leinster House at one end, near where the Lecture Theatre now stands, and at the other end from Kildare-street, where the Agricultural Show

Yard gate now is. Kildare-place is, I presume, never likely to be permitted to be built on by the municipal authorities, and one side of the museum would get ample light and air from that side, and the other would look upon the courtyard of Leinster House. I really do not think it is quite fair that the report should go forth that the site selected by the department is the only available one, when the site in Kildare-place has been brought before them, and is now in the hands of the Board of Works for them to erect any buildings that may be required upon.

#### DIFFUSION OF AIR IN BUILDINGS.\*

THERE is a process of diffusion taking place constantly through the walls and the ceilings and floors of our dwellings, and this process, although not recognised, and although continuing its action in silence, is an exceedingly important one, and is really a saving process for us who have to live occasionally in rooms not artificially ventilated. The process of diffusion may be stated to consist in the tendency which all gases have to become intimately and permanently mixed; and the process goes on through porous substances, and through other substances which we do not usually regard as porous. I may illustrate the matter to you by a very simple experiment. I have here a tube, closed at the upper end by a block of gypsum or plaster of Paris a little more than a quarter of an inch thick, and this glass tube is in communication with this upper receiver. I shall fill the tube with hydrogen gas, and I will place the lower end under the service of some coloured water. The inner part of the tube will be filled with hydrogen, outside will be air. The hydrogen will diffuse or tend to pass through the pores of the plug into the surrounding air, but the hydrogen will pass through faster than the air enters, and the consequence will be that a reduction of pressure will be caused inside the tube. If this be so, the column of water will rise, which will show you the effect. It is now filled with hydrogen gas; I immerse in it the coloured water; we will leave it for a few moments, when you will find the coloured water will rise in the tube. This means that there must be less pressure inside the tube than there is on the surface of the water; and this is due to the fact that the hydrogen is escaping through the pores of the plug faster than the air is entering. This is an illustration of the same process that is going on through our walls and ceilings.

Now the rate of diffusion varies inversely as the square root of the density. Its rate is dependent, therefore, on the density, so that any means by which we can alter the density of our air or gas will produce an effect on its diffusion. If you have two gases, one on one side of the porous plug, and one on the other, the greater the difference in the density, the greater will be the speed of diffusion. There are two things which tend to alter the density of air within our buildings; those two are—first, an alteration in the composition which takes place in the air; and, secondly, the elevation of the temperature. Now the alteration in the composition comes from the discharge into air of water and of carbonic acid; but the alteration is small, and may, as far as regards its influence on diffusion, be neglected. The elevation of temperature comes from the heat of our combustible fuels, and also from the heat of our bodies, and the greater the difference of temperature which we can get between the air inside and out, the greater will be the speed of this diffusion. But we shall find, as the rate of diffusion does not increase proportionately to the ventilation, we shall gradually overtake the rate at which it is taking place. Consequently we shall, after a short time, arrive at a limit beyond which the process of diffusion will be unable to help us, and from which point we shall begin

to vitiate our aim more and more. The heating effect of gas and of sperm oil is about equal, light for light; the heating effect of paraffin oil and candles is about the same, but greater than coal gas and sperm oil. Of the materials which can be classed as ordinary building materials, those which permit the diffusion to go on most rapidly are:—First, the material which is occasionally used, I am afraid, in the building of some of the houses in the suburbs—I refer to dried mud. That is a substance through which diffusion takes place with the greatest ease, much greater than through ordinary bricks or stones. Next to mud come bricks. Bricks allow diffusion to go on with a very considerable amount of rapidity and ease, almost as easily—easier in some cases—than through this plug of gypsum. You can see the ease with which the hydrogen finds its way through by the height to which the water has risen, representing 16 or 18 inches water pressure. Next to brick we have limestone; and, lastly, sandstone. This is the order in which you can take building materials. I would state here that, in my opinion, it is high time that architects and builders should be called upon to recognise that it is absolutely necessary to ventilate not only large buildings, but every room in a house in which persons may have to remain for some time, more especially those in which artificial illumination is used. If it were not for this process of diffusion the matter would long ago have become imperative, because there would hardly be a room in which, after a little time, it would be possible to live; but so long as this condition is not arrived at, all concerned seem willing to allow things to remain much as they are.

The process of diffusion, although it has been a saving element in this matter, has been, at the same time, rather a snare, because when we lose its influence we find it becomes absolutely imperative to get air in some other way. When we descend a coal mine, we have no diffusion whatever to help us, and all the air which is required there for the respiration of men employed, and for the combustion of their illuminating fuels, must be sent directly down the shaft; and what is the consequence? That an enormous quantity is found to be required, much more than is conceived to be necessary on the surface—much more than is necessary in fact. As much, in some of the northern pits, as 350,000 cubic feet of air is sent down per minute. This is needed, because they are not able to rely upon any other source below.

The air of a room cannot be conveniently changed more frequently than from three to four times per hour, and it should be seen always that the vitiating influence is not in excess of this rate of diffusion. Further, the oppressiveness of a room, the effect of which it has of producing headache and nausea, is not due only to the presence of carbonic acid and moisture. You may go into a soda water manufactory, in which there is a very much larger amount of carbonic acid in the air than in any of our rooms which are imperfectly ventilated, and you do not suffer in the same way as you do from remaining in an ordinary ill-ventilated room. The reason of that greater oppressiveness of our rooms is due to the presence, I think, of organic matter. Now, this organic matter is exhaled in the breath, and is given off by all our illuminating fuels; and it is this organic matter in the air which produces the feeling of depression which we all feel on remaining for some time in a room which is ill-ventilated. The amount of unburnt carbon products given off by coal gas, for example, is very large, and it is very probable that those burners which give out the greatest amount of light really give out the greatest amount of unburnt carbon products into the air. The amount of organic matter in the air will be proportionate to the amount of carbonic acid discharged either by respiration or combustion, and hence it may fairly be taken as a measure of the badness of the air.

\* From a paper by Mr. T. Wills, at Association of Gas Managers.

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

It is upwards of three quarters of a century since Richard Lovell Edgeworth, and his talented daughter Maria Edgeworth, in their excellent "Essay on Irish Bulls," proved by the logic of numerous illustrations that John Bull is given to as many blunders in language as any son of the Shamrock sod. What is laughed at in the Englishman as mere mistake or confusion of language, if perpetrated by Pat is ridiculed with great gusto as a characteristic "bull." *En passant*, we read in some magazine several years ago that when the "Essay on Irish Bulls" first appeared, some English farmer and stock-keeper, on his visit to town went into a bookseller's and asked for a copy of the work, which he brought home with him, expecting to find some useful information as to breeding cattle.

In the last century in Dublin our newspapers were often enlivened by comical blunders or mistakes, and advertisement columns often exhibited strange announcements. George Faulkner's (Swift's printer) *Dublin Journal* was credited with many bulls or blunders in its letterpress, but we confess that we have in our literary experience met with a variety of blunders—veritable bulls—in English periodicals and newspapers. Mistakes must often occur in newspaper matter, owing to the hurry and pressing exigencies of publication. These mistakes are not always mere clerical errors, but downright blunders. Those persons who write hurriedly and indulge in long sentences are prone to blunder, for the sense or meaning by the construction adopted gets so involved that the writer is entrapped without his being well aware of it. He has perhaps not time to re-write or re-cast a sentence or a paragraph, so it goes to press with all its imperfections on its head, and it is not seldom read in proof if the subject is unimportant. "A mayor's blundering proclamation," says the author of the essay alluded to, "is not, however, worth half so much in the eye of ridicule as a lord lieutenant's—a bull on the throne is worth twice as much as a bull in the chair"; and here is an illustration in Irish Viceregal proclamations:—

"By the Lord Lieutenant and Council of Ireland.

## A PROCLAMATION.

Whereas the greatest economy is necessary in the consumption of all species of grain, and especially in the consumption of potatoes, &c.

Given at the Council Chamber in Dublin."

We do not know whether the Dublin proclamation was the first instance in which the potato was classed as a species of grain, but the inference is plain enough in the construction of the sentence. The announcement once made in the *St. James's Chronicle*, London, and quoted in the "Essay on Irish Bulls," shows that English writers of that day were not a whit more grammatical than their Irish brethren. In the annexed extract the enumeration of particulars at the end of the paragraph was strangely at variance with the general assertion made at the beginning. List:—"Three boxes of the curiosities of Egypt, landed last week at Plymouth, which were chiefly collected among the ruins of ancient Athens and Corinth, by Lord Elgin's order, have been opened for the inspection of the curious. They contained one brass cannon mounted on wheels, of which there are in other boxes twenty-one for a royal salute, and were used at the siege of Cairo by Bonaparte; they are so light as to be drawn by one artillery soldier, and did great execution in that city. Another box in opening produced a most beautiful and elegant specimen of real Grecian sculpture, the figure of a centaur. A third contained two shafts of pillars, finely carved, of Egyptian granite." The above is delicious. Wonderful, in sooth, must have been these Egyptian curiosities found among the ruins of Athens and Corinth, &c. ! Surely some people will say the editor or sub-editor of the *St. James's Chronicle* must have been an Irishman; but if he was a veritable John Bull—"pooh, pooh! it was only a mere slip of the pen!" There have been

many bulls published in "Joe Miller's Jest Book" credited to Irishmen, which were never uttered by them originally; and the writers in the comic journals for years, from *Punch* downwards, have fathered blunders on the Irish and the Scotch, specially manufactured for the amusement of their readers. The white *Greyhound* and the wooden *tombstone* and such like contradictions of terms are well known, and are no more characteristic of the Celt than the Saxon. "Every man his own washerwoman" originally appeared as an advertisement in an English newspaper in reference to a new washing machine, and "This coffee-house removed up stairs" was another announcement once posted up outside a well-known resort. A Roman emperor, remarks the author of the "Essay," used to draw his stairs [query ladder] up after him every night into his bed chamber, but drawing a whole house up itself is new." We more than once heard an Irish workman exclaim to another, "Arrah get out with ye, Pat; take yerself away with ye." If the "getting out" part of the above address was not quite clear, particularly when the man addressed was out in the street at the time, certainly no doubt need be expressed as to the meaning or the expressiveness of "take yerself away with ye." A man certainly could not depart without taking himself bodily off, shadow and all, though under some conditions he could leave his supposed better-half behind in the shape of his wife. Everything is possible in the land of Sir Boyle Roche, whose bird at least is credited with ubiquity, or the power of being in two places at the one time.

The London coffee-house that was removed upstairs, and the regulations moved by a certain English baronet in Parliament in connection with a turnpike bill—"on every Monday (except it should fall on Christmas Day or Easter Sunday)"—were unmistakable Saxon blunders; but they are only samples of many similar ones quite as racy of the soil of England as any undoubted Irish bull is of Ireland. Although we cannot match the case of the Roman emperor drawing his stairs up after him to his bedroom, unless we suppose it to be a ladder; still we can furnish anecdotes of builders of houses, or owners for whom houses were built, committing strange mistakes—blunders, if you will, or bulls, messieurs, if you please.

Swift's printer had a house erected for himself (still standing at the Essex-street corner of Parliament-street, on the left-hand side as you look towards the City Hall). This house was said to have been all but finished before the staircase was erected, and it gave rise to a joke on the part of the Dublin wits that Faulkner knew what he was about quite well, for what did he want with a stair in his house as he could not climb? Faulkner, as is well known, had a wooden leg!

A well-known bishop of the Disestablished Church was once credited with doing a feat in building that far eclipsed Yankee ingenuity as illustrated in the removal of American houses from one side of the street to another. The Irish bishop built his house from the top downwards, instead of from the foundations upwards. This is not the impossible feat it would at first sight seem to be. He accomplished his task, or rather the Irish workmen engaged accomplished it for the clever bishop. This feat in building is no Irish bull or blunder, and was forced on the bishop by a combination of circumstances. We will leave the solution of the difficulty to the ingenuity of our Irish architects and artisans, for we believe we made known some years ago the *modus operandi* adopted in this feat of Irish house building. What do you think of it, John Bull? Beat it, if you can, or consult the present Bishop of Peterborough, who may have entered the occurrence in his Irish notebook.

Building operatives and other artisans are wonderfully communicative and boasting over their cups on Saturday afternoons; but to do them justice, their failings are scarcely worse

in most respects than the shortcomings of their "betters." When the second pot of porter or "raw rammer" of Jameson has lubricated their windpipes and made the pulse beat quicker, the ghost of Peter Nicholson appears on the scene, and the talk soon becomes incessant on angles and triangles, diagonals, and polygons. The finger of one workman or another, be he carpenter or bricklayer, is dipped in the spilt liquor, and the "summering" of a brick arch is "set out" immediately. "What have you to say to that?" interrogates the man of brick to the man of wood. Mr. Chip (who is a rather pugnacious fellow when he suspects Mr. Brick to be underrating his abilities or that of his brethren, is not long in responding, "I tell you what, my old cock-of-the-walk, a shower of rain would, I think, wash out all the knowledge of lines from most of the men of your trade." "Look here," continues the chip, "do you know anything about this?"—and immediately the querist traces with his finger wetted an angle bracket, or the intersection of a raking moulding with a horizontal one. "We are seldom or never called upon," replies the bricklayer, "to execute angle brackets in brick or the work they represent. Masons may execute stone pediments; but I tell you what, Mr. Chip, none of your bouncing with me. You may be 'raking' fine fellows, for all I know; but I'll bet you five shillings to one you couldn't cut a 'skew back' in brick if you were paid ever so much for it." The combatants soon warm to their work, the carpenter tracing elevated soffits, angle bars, moulds, and falling moulds, &c., and the bricklayer flat arches, barrel vaults, and skew backs. Each party has its partisans or brother workmen, who are interested in the discussion, and the battle of the "lines" often continues till Mr. Pub informs his artisan friends and others it is closing time, and perforce the discussion stands adjourned.

H.

## CORRESPONDENCE.

## THE CHRIST CHURCH MONUMENTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Your correspondent "Paganini," has called attention to the manner in which the monuments that formerly adorned old Christ Church have been either disposed in a "dim religious light" of semi-darkness, or, as the letter of Mr. William George Black in the *Athenaeum* (to which he refers) shews, to the limbo of the crypt. To the building of a new Christ Church (to call it a re-building or "restoration" would be absurd), I will not allude, beyond expressing the disappointment I felt, on a recent visit, at all I saw, more especially the gas-lighted choir and the *gibbet*-surmounted screen—offensive in every way to those for whom the so-called "restoration" has been made, and whose forefathers had removed such unfitting memorials of what they considered unnecessary and unsuitable to their ideas of a reformation.

A very readable paper in a contemporary of this month calls attention to the art of giving presents, in which the author says—"we may best find out what a gift should be by asking ourselves what it is intended to represent"; and I have been for some time of opinion that it was never Mr. Roe's wish to mar the pleasure of his magnificent offering to the citizens of Dublin by insisting on their acceptance of much that was repugnant to their feelings, even though mixed with the greater leaven of what was pleasing. As your correspondent says, "I am sure Mr. Roe is not to blame," and, I would respectfully suggest that if the matter was brought before him specially in your and other public journals or by deputation, he would at once direct the unsightly, offensive, and useless screen to be removed, and the monuments, if they cannot be accommodated in the church, placed in a building suitable, say a cloister (for which there is as much precedent as for the legion of vagaries that on all sides strike the architectural eye), and for

which there is ample room. Or if they must be "stored" in the crypt, why not let it be open to the public, and the daylight allowed to penetrate its pitch-dark vaultings. There are few who visit the church would care to explore the vaults when the doing so requires "lights and attendance;" and I for one regret to see such difficulties as iron gates and railings placed in the way of those who wish to see the church, and who some years ago were accustomed to sit or stand wherever they could find room, and were not asked if they intended waiting for "holy communion." But all is changed, and (unless Mr. Roe steps in to interfere) dissatisfaction must prevail at the arrangements in and about what should be a "church of our fathers," and no effort should be spared in a wholesome agitation to have the offences removed.

JOHN S. SLOANE.

P.S.—Will some of your professional readers be good enough to say where Mr. Street got his authority for the pretty little baptistery? At any rate, it is innocent of symbolism, and is as new to the corner of John's-lane as its position is to legitimate Church architecture.

### RETURN OF SEWAGE DISCHARGED INTO TIDAL RIVERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the columns of a daily contemporary reference is made to the pollution of rivers by sewage, and the question is raised—If sewage is discharged into an ebb tide, will it be carried back into the river by the succeeding flow tide? This is a much-disputed question, and many eminent men seem to be of the opinion that the matter carried out by the ebb tide cannot return. I, however, have for many years past been making observations on the subject. I have not as yet had time to reduce my notes into order; but the conclusion I am forced to arrive at is—that in the generality of rivers all matter not carried out beyond the headlands of the estuary or bay of the river, will be more or less carried back into the river by the following flow tide. If we consider the action of the sea in the river estuary and its bay, it will be found that this ought to be a natural result, and it may be exemplified by Dublin Bay, which is more or less known to the readers of your journal. The flow tide in the Irish Sea outside the heads (Dalkey Island and Howth) runs northward. At half flow, or when the tide is about three hours gone outside in the Irish Sea, there are two currents entering Dublin Bay, both flowing westward, but one near the south shore and the other near the north one. These at their junction neutralise one another, and form dead water. When the flow tide in the Irish Sea is about six hours old, it ceases to flow southward, and the ebb tide, setting northward, commences; but for some time after the commencement of the ebb in the Irish Sea outside the tide is still flowing up the Liffey; this time varying, being shortest during neap tides, and longest in spring tides. Similarly at the turn of the ebb tide in the Irish Sea, there the tide is flowing for some time prior to the tide in the Liffey ceasing to ebb. We consequently have—first, there is the matter carried down by the early portion (say for three hours) of the ebb tide out of the Liffey. This possibly, but not probably, reaches the ebb tide outside the heads, and is carried away to sea; but all the matter carried down by the last three hours of the ebb from the Liffey cannot reach the open sea, for at the first it is stopped, and stands suspended in the dead water due to the junction of the ebb tide from the Liffey and the flow tide outside; while subsequently, when the tide in the bay turns, it is carried westward, portions to be deposited along the north and south shores of the bay, and the residue, back into the Liffey, to form its odoriferous mud banks. At the present time Dublin is principally getting back a portion of its own sewage, but eventually it will also get

portions from Booterstown, Blackrock, Kingstown, and all other places that are allowed to discharge their sewers into the bay inside the heads (Dalkey Island and Howth). It may be said the sewage is at present being thus discharged. Granted. But the discharge from the small present sewers, although bad, is more or less neutralised on account of their smallness and their being continually flowing; but when it comes to a six-hour discharge of concentrated matter, it will be quite a different state of things. The Thames is even worse situated than the Liffey, as its bay is much smaller, and more of the nature of an estuary. Therefore, the difference in time between the change of the tides outside the heads (Foreland and the Naze) and in the river must be greater; thus giving less time for the suspended matter to be carried out to sea. In spite of the expensive Thames Embankment, only recently erected, there is already a cry that the supposed cleansed waters are being polluted by return sewage, and it is scarcely possible that the water in which the ill-fated passengers of the "Princess Alice" were destroyed was not poisonous. It seems, however, rather curious that the question should be discussed while the fact could be so easily proved or disproved, as all that is necessary is to take some of the water at a similar age and time of the tide, and get it analysed. I suspect it would not be necessary to wait for the age of the tide, and that at a similar time of the ebb the water would be found to be poisonous.

G. HENRY KINAHAN.

### A QUERY FOR HANDRAILERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The letters under this heading in your issues of September 1st and 15th were ingenious and interesting, and will probably lead to a new departure in getting out the "twist" of the handrail under some conditions. A knowledge of "lines" is, I allow, indispensable to all carpenters and joiners; but there are many experienced hands who know very little of practical geometry as applied to their craft. Some of our staircase hands and handrailers are also, to my certain knowledge, very deficient in the knowledge of "lines" for the proper "setting out" of their work. In the getting out of moulds, templates, or models, the thought strikes me that an instrument, tool or cutting tools could be so arranged as to obviate much labour that is now found necessary before an intricate or curved piece of work is ready for its final shaping or finish. It is known the trouble that some workmen are at who possess but a small knowledge of geometry or "lines" before they can assure themselves they are right, or nearly so. In respect to the cylinder and "twist," let us for the moment imagine a solid column or cylinder of 12 in., or, say, 6 in. in diameter, which would include the height of the twisted part of the rail, from the spring-line on the bottom flight to its corresponding place on the flight above. Imagine this cylinder to be made of plastic material, say a column of potter's clay. Now, above this plastic cylinder (resting quite level upon a bench or table) suppose we arrange a cutting tool or tools worked by a lever, could we not perpendicularly pierce or cut this cylinder of stiff clay, shaping it with the utmost exactness to the required mould or model of the curve or "twist" required? My suggestion, sir, is made with a view more to simple experiment than for enticing men to adopt a plan for avoiding geometrical study. It would be also worth knowing by experiment what might be the exact difference between a model generated by a working cutting machine, acting in accordance with geometrical principles, and that of a model worked by the hand in the ordinary way. I have examined many "twists," and I cannot say that I was entirely satisfied with the shape of the best of them. They all more or less required a little "easement" to place the eye, and the eye of a skilled workman is

very sharp in detecting a false curve or a piece of stuff "in winding" that should be a dead level.—Yours,

ANOTHER STAIRCASE HAND.

### GAS VERSUS ELECTRICITY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Knowing the interest your readers take in the subject of lighting, and the absurd ideas that are afloat as to electric lights, which serve as a tool in the hands of certain unprincipled parties to work up a panic in gas shares, I send you a copy of a letter which I have addressed to one of your morning contemporaries, in the hope that you will give it a corner in your next publication.

JOHN S. SLOANE.

TO THE EDITOR.

SIR,—As the oldest lighthouse engineer or architect in these kingdoms, excepting the Messrs. Stevenson, of Edinburgh, and claiming the small authority on the subject of lighting that the experience of more than half my lifetime should give, will you allow me an opportunity of saying or writing a few lines with reference to a paragraph in your London correspondent's letter of this morning. I allude to the matter of the electric light against gas and the panic produced by the Edison telegram, which I much regret should have such an effect on commercial minds. As to the authority which your correspondent states "was quoted here last night," I would wish to disabuse the minds of your non-professional readers on that subject, and to assure them that the authority, "antecedent to the revolution supposed now to be looming," although five years have passed over since the report was published, has not had the effect of causing the clock-tower at Westminster to be lighted by electricity, or gas to be discontinued. That one story is good till another is told, is an old adage, but not the less true, and it will be found on reference to the parliamentary papers on the subject that Mr. J. R. Wigham, inventor of the apparatus with which the clock-tower and many of our lighthouses are illuminated, most conclusively refute the report quoted by your correspondent. I was in London at the time the experiments were made, and witnessed them from Primrose-hill, but neither the Messrs. Stevenson nor myself were consulted; however, the one fact remained that the gas was employed and the electric light rejected. I have seen it from the Foreland lighthouses, Cape Grinez and Dungeness; in the workshops of M. M. Sautter et Lamonier, in the Avenue Suffren; and at the Terminus of the Chemin de Fer du Nord in Paris, and have no hesitation in stating that so far the gas companies having nothing to fear. As regards lighthouses, it is simply a *bad* light—winking, blinking, blinding from its intensity, possessing no volume, and no penetrating power, most uncertain, most expensive, valueless in mist or fog; in none of these can it compete with the patent gas light, excepting that it has the advantage of not being an Irish invention.

But the experiments I here refer to have little or no bearing on the question of street or domestic lighting. It is well known that a junior professional man striving for position will attempt to prove almost that black is white, that slate is sandstone, &c.; the public in their domestic matters are not so easily persuaded. It is now thirty years since Herr Gluckman and other *savants* exhibited the electric light from Nelson's Pillar, Trinity College, the Ballast Office, and Messrs. Yeates' house, Grafton-street. How nearer are we now to its popular use? The Kaolin candle, as I saw it exhibited in the Grando Magasins du Louvre, is a pleasing laboratory toy, and may be improved into something manageable and useful. The apparatus of M. Gramme has been tried with some promise of success in situations where reflecting media such as white ceilings can be had to neutralise the depth of shadow, but these are feeble results for forty years. "Wait till you come to forty

years," said Thackery; and we may echo the sentiment.

As your correspondent remarks, "it is a pity people did not wait till the discovery of the subdivision of the electric ray" to see whether they were justified in a panic which, no doubt, will result in good to those who know how to take advantage of it; but, looking to all that must be done, and the difficulties that must be surmounted, even were the electric light *un fait accompli*, there is no reason why our gas companies should cry out before they were hurt. Edison is, no doubt, a clever young man; but to what has his cleverness tended as yet? His telephone has not become popular, nor have I heard of its causing any panic amongst bell-hangers. The phonograph is most amusing, but beyond a hearty laugh in a lecture-room what has it effected? Has any physician as yet discarded the stethoscope for a microphone? Who can tell what may be in the womb of time, or what may yet be discovered to give good and cheap light to our streets and homesteads? But, so far as I can see, I would rather rely on the cheapening of coal, a consequent reduction in the price of gas, and legitimate rise in the company's shares, than in any experiments from the clock tower at Westminster, or the cooked reports of Edison or any other genius.

One word more. We have all seen what beautiful light could be had by the magneto-electric machine driven by a gas or other engine, as exhibited at the Royal Dublin Society and other places; yet, strange to say, I have not heard of any of the exhibitors adopting it in their own factories or workshops.

JOHN S. SLOANE,

Late Engineer to the Commissioners of Irish Lights.

#### ON SANITARY CO-OPERATION.\*

CHAUCER uses the word *sanative*, and so does Bacon; but sanitary, or sanitation, connected with the science of Public Health is not nearly so old as our patriarchal president, Mr. Chadwick, who I am inclined to think, was the father who invented the term sanitary science.

In this year of grace, we have sanitary newspapers, and here is a Sanitary Institute sitting which is yet old enough to be recorded in "Whitaker's," or other almanacs, or such like registers.

There was once a Public Board of Health, and there may be again. The Society of Arts and other public bodies do duty for it, and discuss health continually. In the meantime public opinion on sanitary questions of all kinds is gradually fermenting, and is still working its way. Health has even crept into the Revised Code of the Education Department, and public grants are made to encourage a knowledge of its principles according to rules, which make it difficult for schools to earn the grant. The Local Government Board virtually is responsible for doing what a public Department might do if it pleased, to advise upon and promote the health of the people throughout the kingdom; except in the metropolis, which is protected by vestries and the representatives of vestries, and as respects sewage can do nothing better than pollute the Thames with it, and suffocate unfortunate wretches who are immersed in it. The Local Government Board is afraid to do more than follow in the wake of public opinion—at a safe and long distance. Reports and returns are printed by Parliament, which are far more difficult to buy than a newspaper, or any sanitary paper, and are not systematically to be found even in Public Free Libraries—not in the excellent reference library at Manchester, or even in the British Museum, until a long time after publication. No authority is charged to make the information known. Our ancestors once stuck public notices of Acts of Parliament and proclamations on the church doors, but the practice is hardly followed now. And yet health and religion are

companions, and the work of churches and chapels in all their phases of thought, which would, I think, be helped, but then the Home Office should take measures to inform the registered ministers of religion when all the publications which were issued by Government to promote a knowledge of public health appeared, and I venture to recommend this Institute to consider this suggestion, and if need be, cause it to be discussed in Parliament. Year after year Parliament makes laws permissive rather than obligatory, and the execution of them is a dead letter comparatively.

Mr. Cresswell, in an admirable paper read at the Health and Sewage Conference of the Society of Arts, last May, which should be carefully studied, observes "There has been a redundancy of legislation embodied in a tortuous series of enactments." The Public Health Act of 1848, the Nuisance Removal Act of 1855, the Local Government Act of 1855, the Sanitary Act of 1866, the Sewage Utilisation Acts of 1865 and 1867, the Pollution of Rivers Act of 1876, and a consolidated act, the Public Health Act, 1875; and, lastly, a Water Supply Act in 1878, brought in by Mr. A. H. Brown, the member for Wenlock. Mr. Cresswell continues to say, "Legislation has dragged its slow length along, while events have galloped with portentous haste, and neither imperial nor local effort keeps pace with the needs and expectancy of the nation. In 1876, popular excitement induced a palliative measure in the Rivers Pollution Prevention Act, but that measure has failed of its purpose, and given to wrong-doers a quasi-legislative sanction for their delinquencies and incapacity. At the same time, the Thames Conservancy Acts of 1857 and 1867, after much ado about nothing, have suffered a palsy, and received their *quietus*—for a time, at least—in the Lower Thames Valley Drainage Act of last year. In the meantime, a cry has gone up for water—water for the food and ablutions of man as well as the requirements of our great staple industries. Every river from the Tay to the Dart, has been contaminated with the refuse of homestead or factory. The salmon kelts of Westmoreland and Cumberland are in process of destruction by a parasitic fungus plant, the newest development of sewage pollution; and, while professors dispute as to final causes, and means of prevention, the patient public waits for the *Deus ex machina* in the form of some miraculous intervention, to save them from the natural consequence of their own apathy and ignorance. In presence of these and other startling phenomena, where shall we seek the signs of progress, or compute the net results of practical sanitation? . . . In this respect it may be expedient to reorganise the Local Government Department, and re-adjust it on its own proper bearings. Further legislation in this direction will rid us of that red-tape and circumlocution which encompasses every limb, and paralyses the functions of local bodies, reducing independent self-government to the shadow of an empty name. From the investigation of a grand scheme of arterial drainage to the contents of a workhouse plum-pudding, is a wide range of official supervision, yet nothing is too large or too minute for the elephantine prehension of the Whitehall department. There is a veritable plague of inspectors abroad, and the native stubbornness of the provincial mind, although it may need the spur and impulse of the central authority to set it in motion, resents this constant yoke of official supervision, which will not permit the expenditure of a few pounds, or the construction of a workhouse pigsty, without a local inquiry and departmental sanction. This was not the intent of those who framed the Public Health Acts, nor is the system compatible with the divine right of self-government. The functions of imperial administration end where those of local self-government begin; each has its proper uses in the economy of the State; and there is scope enough for each within its own particular province. The Rivers Pollution Prevention Act is in point. Such is the

superfluity of safeguards and precautions in the provisions of that Act, that none save a Government department would venture to put it in force—nor can a sanitary authority take any proceedings under it without the consent of the Local Government Board. Here, then, was a field for the energies of Government, where both the resources and influence of the State might be usefully employed. Yet nothing has been done to enforce or direct the operation of an act which is, as it were, stillborn, and truly a most lame and impotent piece of legislation! On the contrary, we can cite cases where local enterprise has been hampered; and official interference has blunted the edge of many a bold resolve on the part of those who have striven, humbly but honestly, to help themselves." What, then, can be done? We can say what ought to be done, but it may be years before impediments are removed and the work be done. So I offer some suggestions as a beginning; better, I hope, than remaining as we are. My suggestions will apply to the pollution of rivers by sewage, which, for the last two or three years I have had reasons for studying.

You cannot remedy the pollution of a river unless you can get some federation of interests, and treat the river, from its source to its discharge into the sea, as a unit, and look to see that the whole work is done properly, in the interest of all the places which empty sewage into the river or its tributaries. Voluntary co-operation here, at present, is indispensable, and may be possible, but Government alone can make it obligatory, which it has shrunk from doing. Self-interest may be called into action. Take the case of the rivers Irwell, Irk, and Medlock, flowing through Manchester. Proliferation of the rivers in Manchester and Salford is paralysed because the towns have not yet begun to remedy the nuisance of their own sewage, but send it down to pass Manchester on its way. Oldham and Rochdale have done nothing, therefore Manchester does nothing.

There is an instance nearer at hand which the Institute may examine on the spot. The Trent is at present made the common sewer for all the pottery towns from Tunstall to Stafford, rendering Trentham-hall almost uninhabitable. These towns are so independent and republican in spirit that they will not co-operate. Co-operation, as affording the best and cheapest way of proceeding, has been recommended by all the local surveyors. The towns know it well, but have it they will not; and each will have its own system, although at greatly augmented cost and reduced efficiency, with a great likelihood that, twenty years hence, the work will have to be reformed. Thus Tunstall adopts a feeble precipitation system dirtily carried out. Burslem, the next town, adopts irrigation at very great and unnecessary cost, almost sure to be reformed in future years. Then Hanley has its own independent precipitation scheme of some kind, which will be burdened with sludge. Whilst Stoke-on-Trent, at every meeting of its council for years past, has oscillated between irrigation, or filtration, or precipitation, or a jumble of all, one meeting undoing what the last meeting settled, whereas one main drainage along the River Trent and one outfall would have cleansed the pottery towns for all time and at far less cost in the end. But the towns flinch from doing the simple problem of arithmetic in settling among them the proportions of the cost!

Mr. Cresswell thinks there is a ray of light in the darkness afforded by the bill lately before Parliament for the constitution of County Financial Boards or Local Parliaments in every county. Alas! this bill never passed, and even if it had, I doubt if it could deal with a river passing through several counties like the River Trent. Each county would have to agree with several others in establishing one conservancy. The Trent begins in Staffordshire, passing into Nottinghamshire, then Lincolnshire, and gets to the sea in Yorkshire, collecting eighteen other streams besides several tributaries.

\* By Sir Henry Cole, K.C.B. Read at Sanitary Congress, Stafford, October, 1878.

The House of Lords, on 23rd March, 1877, appointed a Select Committee to enlarge the powers of authorities over drainage and river navigation, "so as to provide more efficiently for storage of water, the prevention of floods, and the discharge of other functions." The committee passed an unanimous report. They "entirely concurred with the witnesses that to secure uniformity and completeness of action in dealing with each river, each catchment area should, as a general rule, be placed under a single body of conservators, who should be responsible for maintaining the river, from its source to its outfall, in an efficient state," and are of opinion that the conservancy boards should be enabled to execute the powers for the prevention of the pollution of rivers, conferred on the local authorities by the Rivers Pollution Act."

Purification of rivers is obviously connected with supply of good water, and both are connected with the proper preservation of water, and all should be under one authority.

Until public opinion emboldens the Government to adopt this wise principle, so authoritatively recommended that a whole river shall be under a single authority, and enforce it, I throw out for the consideration of the Institute, the suggestion if commercial principles may not be applied, at least to initiate a system of helping the purification of a whole river from its source to the sea. Commercial companies were formed to establish and work railways, and supply gas and water. If commercial companies had not been formed to provide railways, when would they have been started by our Government in this free country, which only follows public demands cautiously? Constitutional Governments do not originate measures.

A public company might be formed to manage the purification of the Trent on the best known scientific principles, with far greater economy and efficiency than the many towns, each by itself polluting the Trent, could do it. Such a company might deal not only with the sewage but the manufacturing refuse of all kinds.

We may hope that the letter which the Prince of Wales addressed to the Society of Arts, as its President, on the National Supply of Water, may start public investigations into the catchment basins of rivers, inquiries that will have useful connection with the purification of the rivers. In the meantime let private enterprise try what can be done, until Government, as with telegraphs and local intelligence, has ripened up for universal action in treating water sewage.

### THE TIMBER TRADE.

IN their circular for this month, Messrs. Farnworth and Jardine, Liverpool, state that there has been a falling off in the import of nearly all descriptions of wood during the past month; in square timber there has been a corresponding falling off in consumption; business has been exceedingly dull, and no improvement in prices. For yellow pine timber there is scarcely any inquiry, and the present comparatively moderate stock appears likely to be amply sufficient for any probable demand. In red pine there is no change. Oak is still neglected, and even for the few parcels of prime fresh wood just imported there are few buyers. For second quality pine deals there is more inquiry, but other kinds are dull of sale. Of spruce deals we have again had a large import, and the consumption has also been large, but prices are ruinously low and still falling, whilst the stock is much too heavy to admit of any hope of early improvement. Pine deals from the lower ports are rarely asked for, and can only be sold at extremely low prices. There have been no arrivals of pitch pine during the past month, against 2,723 tons last year. A moderate consumption, coupled with the absence of arrivals, has helped to place the market in a somewhat better position, and the stock compares very favourably with last year, hewn timber being 47 per cent. and sawn 28 per cent. less. This feature has induced a few contract sales for the coming season, but buyers generally have little confidence in the immediate future, and prices on the spot have not shown the least sign of improvement. To bring this market into a thoroughly healthy condition again, a total cessation of shipments should take place for some months to come. The arrivals of

Baltic and European woods during the past month have been 18 vessels, 6,930 tons, against 27 vessels, 12,566 tons, last year. The market keeps exceedingly dull, and what few sales have been made are at declining prices.

### ST. MARY'S, TUAM.

THE Cathedral of St. Mary, Tuam, was consecrated on the 9th inst. The structure (which is in the early Pointed Gothic style) stands to the west of the time-worn and venerable cathedral. It has been so incorporated with it that the two form an edifice combining solid dignity with a chaste elegance of detail rarely attained. The works have been in progress for the past sixteen years, and have been carried out from the designs and under the superintendence of Mr. T. N. Deane. In our issue of February 15th, 1862, we gave three views of this building. Copies of the number can be had at our office, price sixpence each.

### HOME AND FOREIGN NOTES.

Mr. Waldron has accepted the appointment of clerk of works to the Abbeyfeix Union, at a salary of £10 per annum. There was not a single response to the advertisement put forth by the guardians in the local journal.

A JOKE ONLY.—Our friend *The Grocer* treats its readers to the following:—"All have read of Donnybrook, and have heard of Paddy trailing his coat there, &c. As the tram-cars run from Nelson's Pillar to that famous place every few minutes throughout the day, it is easily visited from Dublin, especially at Fair time. Every Englishman whose time of visiting Ireland permits, should go to Donnybrook Fair." The writer having visited "The Brook" in August last, took a run to Kilkenny, where he witnessed "pure dairy butter, and no 'bosch,' selling at 10½d. per lb."

The *Pictorial World* of Saturday gives its readers plenty of information and pictures respecting Afghanistan. On the front page is a well-engraved portrait of the Ameer of Cabul, and inside is a double page showing the principal cities, fortresses, views, and people of this little-known country. Among the other contents of the number are engravings of the Types of the Austrian Army: portraits of three well-known men who have recently died: General Sir T. M. Biddulph, Mr. Justice Keogh, and Sir Francis Grant, P.R.A. The engravings are well executed; the paper must have a large sale.

THE LATE CHARLES J. MATHEWS.—A handsome monument, executed by Mr. C. J. Jordan, has been placed upon the tomb of the late Charles James Mathews, the actor, in Kensal-green Cemetery. It is a fine specimen of marble work, and bears the inscription:—"Sacred to the memory of Charles James Mathews, born December 26th, 1803, died June 24th, 1878. Aged 74. 'O bliss, when all in circle drawn about him, heart and ear were fed to hear him. How good! how kind! and he is gone.' In memoriam." The grave is but a short distance from the entrance gates, and is at the foot of that of the late Madame Vestris.

Mr. Thomas Cobbe, in a letter to the *Leinster Express*, writes:—"Clonamore is a small village in Ballybrittas, and consists only of two cabins in which there are six families almost always located, besides tramps, who get a cordial reception. Several of those families have hardly ten feet square for a family consisting of males and females! Why then should any person wonder at sickness generating in such a place? The wonder is that there is not more of it. And both of the landlords are members of the sanitary board!! As far as the rural districts are concerned, the sanitary law is almost a humbug, and sub-sanitary officers take very little notice of a nuisance."

THE SCREEN AT DURHAM CATHEDRAL.—The *Builder* of 5th inst. has the following:—"The Northumberland and Durham Archaeological Society paid a visit the other day, unexpectedly, to Durham Cathedral, and denounced in unmeasured terms the choir-screen, the pulpit, the reading-desk,—in fact, all Sir G. G. Scott's new work there; Mr. Longstaffe and Mr. E. R. Robson, of the London School Board, being the most sweeping in their abuse. Some of our readers may be glad to see what the much-condemned screen is like, and we give a view of it. It is of very massive character, being 3 ft. thick, 33 ft. long, and 36 ft. high to the top of the cross. It is constructed wholly of Cumberland alabaster and marble. The supporting cluster-shafts are of Frosty fossil,

which in Durham takes the place of Purbeck marble in the southern cathedrals; the caps, annulets, and bases are Devonshire marble; and the spandrels are filled with mosaics, to harmonise with the pulpit. The cross in the vesica is a copy to large size of the pictorial cross of St. Cuthbert, now preserved along with his vestments in the library of the cathedral, and consists of gilt metal, with mosaic of red jasper. The step on which the whole stands is of black Dinart fossil."

LOCAL GOVERNMENT IN DUNDALK.—A public meeting of the ratepayers of Dundalk, convened by the Local Government Board, was held on the 1st inst. in the Town Hall, Dundalk. Dr. Ronghan, Local Government Board Inspector, was in attendance. The meeting was convened for the purpose of obtaining the assent of the ratepayers to a provisional order issued by the Local Government Board separating the borough from the county of Louth for fiscal purposes. Mr. E. H. Macardle, J.P., presided. Mr. Carroll proposed a resolution in favour of separation, which would secure great benefits to the town, and effect a saving in the rates. It was proved at the inquiry that over £2,000 had been paid to the grand jury within the past seven years, for which the town got no return; and by the county surveyor refusing to remove the mud from the town roadways an additional expenditure of £300 or £400 a year would be entailed on the town. By the separation the commissioners would have entire control of the streets. The resolution was seconded by Mr. Kelly, J.P., and passed unanimously. A vote of thanks to Dr. Ronghan, which that gentleman briefly acknowledged, terminated the proceedings.

A SELF-ACTING ELECTRIC FIRE-ALARM.—An ingenious invention for the purpose of giving alarm in case of fire was exhibited a few days ago at the old Town Hall, King-street, Manchester, by the inventor, Mr. E. B. Bright. The apparatus consists of a small metal box, known technically as a "thermo-stat," containing within it, insulated at one end by a piece of ebonite, a spring, composed of brass on one side and platinum on the other. The spring, which is fixed in a building or warehouse, is connected with an earth-wire, and another wire, sufficient for many buildings, communicates with the station of the fire-brigade. The brass of the thermostat expands readily with heat, the platinum very slowly, the result being that when an unusual increase of temperature takes place the spring is brought into contact with a small screw point. At the fire-station is a galvanic battery, one pole of which is put into the earth and the other is in communication with the wire coming from the premises to be protected. Directly the spring of the thermostat becomes expanded by heat, the earth-wire is put into communication with the wire at the fire-station, and the electrical circle is thus complete. This rings an alarm-bell at the fire-station. The wires are placed in communication with a dial, bearing a circle of numbers, corresponding with numbers by which the buildings protected are known; and on a handle upon the dial being turned, a red disc is shown upon another part of the dial when the handle arrives opposite the number of the building where the fire has broken out. Intimation of a fire is thus conveyed to the fire-office from any point in a few seconds, and probably long before indications of the conflagration would be observed from the exterior of the building. The expense of fitting up the apparatus is said to be inconsiderable, and where a large number of buildings are included in the circle, it becomes merely nominal. An apparatus of a somewhat similar kind has been in use in some of the principal cities of the United States for several years, and the returns of those years show that a large amount of property has been saved from fire in buildings protected by it.

OBSTRUCTING ANCIENT LIGHTS.—Chubley v. Nottingham and Notts Banking Company.—This case was heard on the 26th ult. in the Chancery Division of the High Court of Justice, London. Mr. Eddis, Q.C., and Mr. Bush appeared for the plaintiffs; Mr. Marten, Q.C., and Mr. Speed for the defendants. The plaintiffs moved for an injunction to restrain the defendants from darkening the ancient lights of the plaintiffs' premises. The plaintiffs have for many years carried on a large business as drapers, &c., at No. 8 Chamber-street, Nottingham, the back part of which looks into Thurland-court, which is only 7 ft. wide. The houses on the opposite side of the court up to 1877 were very low pitched. The defendants in that year bought this property, and pulled it down for the purpose of building large new premises for themselves. Their operations proceeded, and a wall was proposed to be built by the bank on the site of the small houses in Thurland-court very much higher than the former buildings; in addition to which the bank proposed to build a large dome, or rotunda, extending 54 ft. up to the ridge. They

also intended to build a lofty tower. The plaintiffs used two sets of rooms at the back of their premises on the ground and first floors, those on the ground floor being a mantle sale-rooms, for which light was necessary, and they contended that the light they formerly enjoyed would be so much lessened by the buildings of the bank that it would materially damage the extent of the trade which they carried on in their back rooms. The bank, however, who have since March, 1877, expended £6,000 on their new buildings, alleged that they did not materially interfere with the plaintiffs' ancient lights, and offered to give an undertaking to pull down, if at the hearing of the cause the court should decide that the new buildings injured the plaintiffs. They also contended that the injunction should not be granted on the ground of delay on the part of the plaintiffs in objecting; and also that if the plaintiffs were injured in their business by the bank's buildings it was a case which could be met by damages being awarded. His Lordship said he thought there had been some little delay on the part of the plaintiffs in making the application, and they must have known, when they found out that there was to be a rotunda and a tower erected, that they would be above the height of the old buildings. But he did not think the delay was such as to induce the court not to interfere to prevent the building going on. He could easily see that the business to be carried on at the back of the plaintiffs' premises would be materially interfered with. The business was such as to require light, and that light they were fairly entitled to, both from the ancient windows and the skylights, to the full extent to which they could make them available. The wall opposite the back rooms of the plaintiffs' premises would substantially interfere with the mantle sale-room as a show-room, and their business would be materially damaged. He proposed to grant an injunction with regard to the wall; but with regard to the rotunda and the tower he was not so satisfied that they would materially interfere with the light of the plaintiffs as to induce him to restrain the defendants from proceeding with them. They must, however, give an undertaking to pull down in case the judgment of the court should be against them at the hearing, and the expense they had been put to in the erection must not be made a plea for resisting a mandatory injunction.

### TO CORRESPONDENTS.

**BUILDERS' IRONMONGERY.**—A large amount of both builders' and cabinetmakers' ironmongery imported of late years is wretchedly bad. Very cheap locks and keys, door furniture, sash fasteners, &c., are a nuisance, but they are chiefly characteristic of the Jerry or speculative builder.

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**RECEIVED.**—J. F. (thanks)—W. K.—R. B.—A Workman—J. S.—J. W.—Clonliffe—Clerk of Works—M. A.—R. R.—Tech.—F. R. C.—W. G. R.—A Student—C. E.—D. Y.—T. C., &c.

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Illustration.

MELBOURNE EXHIBITION, 1880—ACCEPTED DESIGN.

Contents.

|  | Page |
|--|------|
| SOME THOUGHTS ON ROOMY AND UNROOMY HOUSES .. ..                                | 307  |
| Irish Board of Works Administration .. ..                                      | 308  |
| Melbourne Exhibition Building .. ..  | 309  |
| New Buildings and Improvements, Oxford .. ..                                   | 309  |
| Improvement of Arklow Harbour .. ..  | 309  |
| The Council Book of Youghal .. ..  | 309  |
| An Eighteenth-Century Project of an Irish National Theatre .. ..               | 310  |
| The School of Art .. ..  | 310  |
| Irish Granite in Paris .. ..   | 310  |
| A Colossal Glass Sideboard .. ..   | 310  |
| Notes of Works .. ..   | 310  |
| The Cork Harbour Board and Cornish Granite .. ..                               | 311  |
| The Chemistry of Dirt .. ..  | 311  |
| The R. C. Church of St. Canice, Aghaboe .. ..                                  | 312  |
| The Inspectorship of the Irish Lighthouses .. ..                               | 312  |
| Paving Experiments in London .. ..   | 312  |
| Adversaria Hibernica—Literary and Technical .. ..                              | 312  |
| The President's Address at Social Science Congress ..                          | 315  |
| Correspondence—  |      |
| English and Irish Departments .. ..  | 316  |
| Wreath, Withe, or Twists .. ..   | 317  |
| The Machinery of Gas Trading .. ..   | 317  |
| The Monuments Again! .. ..   | 317  |
| How can Street Architecture be best Improved with due regard to Economy? .. .. | 318  |
| More Red Tape!! .. ..  | 319  |
| Civil Engineers and Double Commissions .. ..                                   | 319  |
| Social Science Congress Proceedings .. ..                                      | 320  |
| The Unsanitary Surroundings of Dublin Hospitals ..                             | 321  |
| To Correspondents .. ..  | 321  |
| Home and Foreign Notes .. ..   | 321  |

THE IRISH BUILDER.

VOL. XX.—No. 453.

SOME THOUGHTS ON ROOMY AND UNROOMY HOUSES.

**T**HE word "roomy," as applied to houses, is often, if not generally, understood as implying ample space and accommodation; but a roomy dwelling may also mean a house with a large number of rooms, irrespective of their dimensions or space. There is, however, a great difference between both classes of houses, and the influences which they work upon human character. Keeping in view the ordinary middle-class home or those below it in the standard of accommodation, there is much that can be said upon the question of roomful houses and roominess in houses. The words "cabin'd, cribb'd, confin'd" are very expressive when applied to homes or houses in which the apartments or rooms are small. Large rooms are generally desirable by most people, though there is a certain class of persons who, even if they could obtain a larger house for the same rent, prefer a smaller, or what they call a more compact residence. Some persons accustomed to live the most of their lives in comparatively small residences do not care to remove into much larger ones, for several reasons, and some of these reasons are quite apart from any little addition or cost they may be put to in the nature of rates or taxes. Men and women are to a great extent creatures of circumstances, and a home long lived in has a great influence in moulding their characters, tastes, and feelings. It is not uncommon to hear people say that they would not care removing into a certain house, as their furniture or household effects would be lost or dwarfed in effect if placed in large rooms. They have or had already sufficient space or room in their old dwelling for all their ordinary wants, and their minds and habits are so attuned to all their old surroundings that they cannot bear to break with them abruptly. The household effects that would constitute a small, well-furnished house would, if put into larger rooms, exhibit what is not inaptly termed a famished appearance; and persons living on limited

incomes, and desiring to be considered respectable, shrink from putting themselves in a position that would not harmonise with their tastes or feelings.

With all classes there is a desire to keep up appearances or a certain standard of social rank; but while the rich or well-to-do can indulge their fancies, their humble brethren in the social scale are obliged to ape showiness on the *multum in parvo* principle. This desire for display with a large section of the middle classes and those below them often leads to the overcrowding of rooms, and the conversion of their parlours and sitting-rooms into mere baby-houses or toy-shops. Small sideboards and cheffoniers are piled with varied articles of ornament, and window tables and mantelpieces will be found equally crowded with other or similar ware. The walls also of such rooms are often to be seen covered with pictures; and, where space is occupied by the inevitable sitting-room suite—the round table in the centre, and the couch and set of chairs,—the available room for moving about is reduced to very small proportions.

Rooms that would otherwise be roomy, or exhibit a comparative roominess, are, under such treatment as we have described, unroomy and uncomfortable. For small rooms the fewer articles of furniture consistent with necessary accommodation the better. Simple or plain ornamentation is far preferable to overloaded decoration. A room overcrowded is little less than an incumbrance, and furniture under such conditions becomes a lumber. Of course our remarks are not meant to apply to family mansions or the houses of the wealthy, which possess a number of large rooms.

The rapid growth of several cities and towns within recent years has led to the economising of space; and even houses for the better classes now have their rooms more contracted in space than formerly. Two houses are often now erected on the area that would formerly be occupied by one. What has been curtailed in the breadth of a house is endeavoured to be made up by building houses higher, consequently the rooms in our town houses are much smaller. Though we may increase the height of houses by two or three storeys, we gain no additional space, except occasionally in houses constructed on sanitary principles, there may be an increase in the height of the rooms. This roominess has its advantages on the score of ventilation and health, but there is nothing gained on the floor level. The furniture space remains intact, save where the height of the wall spaces are utilised for hanging pictures or fixtures fitted into the recesses.

Roominess and unroominess in a human dwelling, even of the humblest kind, are important matters in their bearing upon man's character. A caged bird may sing sweetly, but never, we opine, with that freshness constant richness or liberty that distinguishes it in its free state. The more space you give a bird or an animal the more joyous, vigorous, and healthy will it be. The analogy to a certain extent holds good when applied to the human family. A man or woman "cabin'd, cribb'd, confin'd," in a small house, or rather in one or two small apartments, and obliged to live thus from one end of the year to another, cannot be expected to progress much. An enslaved, but patriotic people may occasionally swell by their hurning thoughts and efforts beyond the measure of

their chains, and so may some humble genius and inventor in his humble and contracted home. Space, more space, is that for which the humble and lowly heart is for ever athirst. Good space is as necessary as good food and drink, but since the era of speculative building the hearts and souls of men and women in our crowded towns and cities are almost crushed out of them and their intellects dwarfed, as far as the littleness of their home and its contracted surroundings could do it. Look at the town children when they are brought out a few miles on Sunday or holiday to the fields and meadows. Watch their exuberant spirits and the joy of their young hearts. They never seem to tire of talk—it is all rushing and bounding and running hither and thither, plucking wild flowers or chasing the butterflies. They are no longer within the four walls of their small prison home, but out on Nature's wide common, under the blue expanse of heaven, and mayhap by the rippling streams. The lark that soars aloft for the hour does not seem more happy than they. Nature manifests itself in the action of the children, and they feel the blessings of that liberty and space which is so conducive to their health and strength and joy. As it is with the child so it is with the grown man and woman.

Want of sufficient or moderate space in a home is a great drawback, even apart from sanitary considerations. A workman can never work with freedom or satisfaction if he has not ample space for his hands and feet. If a clerk has too many letters, documents, or account books before him, and several of them unnecessary for his reference, their presence will confuse him, if they are not otherwise in his way. A carpenter or other wood-worker, if he be a good, careful, and skilled hand, will not let a large heap of shavings accumulate on his bench before him or about his feet. He needs his tools ready to his hand, and if he is not particular to keep his bench and its precincts clean, he will be liable to have to grope for his tools, and suffer delay before finding them. A literary man or author needs space, and often ample space when he is engaged on any important task. If he values his peace and clearness of mind, he will not allow his writing-desk or table to be overcrowded with books, unless indeed they are well systematised, and that he knows well where to put his hand for his notes, references, and volumes, when he requires them. A small room overcrowded with furniture is, to a literary man, a positive obstruction and annoyance, and a large crowded room is only one degree removed from the same. As all literary men have not distinct libraries or a study devoted to the purpose of composition, ordinary rooms have to be utilised for general purposes. Prison thoughts have often been sublime and far-reaching, but man's home should not be dwarfed to the dimensions of a prison cell. We care not so much for very roomy houses as for houses possessing roominess in their apartments. We would prefer also to see men and women devising methods for affording more space in their small rooms, than trying every expedient to crush in a little bit of furniture here and there, and glorying in the successful attempt.

The rage for building of late years has led to the supplying of all classes with distinct homes, and the artisan now in several towns and in the suburbs of our cities have whole houses (such as they are) instead of one or two or three rooms. The dwellings, how-

ever, erected for the humbler class of clerks and mechanics are miserably small, the rooms diminutive, and the sanitary and other accommodation of the smallest dimensions. It would be far better in several instances that clerks and mechanics had rooms in large tenement houses, or in "flats" like the Scotch system, than be obliged to squeeze themselves and their effects into such contracted and uncomfortable rooms as these new speculative houses afford. Land is dear; yea, and may possibly be much dearer, but life on that account will not be the less valuable. We would, if we could, give every workman a distinct home suited to his wants; but sooner than seeing him going into houses with rooms only suited for a race of dwarfs, we would advocate the retention of the tenement system on an improved scale.

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

WHETHER in the system of "tenders" for supplying stores or materials for public boards, or in that relating to building contracts, a general looseness now obtains everywhere. In architectural competitions, as at present carried out, there is grievous injustice done to architects, on account of the illiberality of local spirit, or by set and determined combination to put in a favourite or friend for the job, without any consideration as to his fitness. Builders, too, are often at the mercy of officials, if the contractor is not ready to bleed; and we regret to say several unprincipled builders are only too ready to give what is sometimes in vulgar parlance called a "daub." Indeed, illicit commissions are plentiful, and a new dictionary of slang would be needed to describe the various terms by which dishonest payments are known.

In respect to the opening of tenders at the Irish Board of Works the Committee of Inquiry say:—

"We do not consider that the present practice as to opening of tenders is satisfactory. It is obvious from the nature of the business of the department that the receipt of tenders must be of frequent occurrence, and the recommendation we have made as to the supply of stores by contract will increase their number. The frequency, however, of their receipt is no reason why the precaution which is taken in most other public departments should not also be observed at the Board of Works. This precaution is, that tenders should only be opened in the presence of the heads of the department. This is not the case at the Board of Works. Tenders in excess of £100 are opened by two clerks, on the last day on which they can be received for any particular service. They are then taken by the secretary to the commissioner in charge of the department, and accepted by him. In some cases they are accepted by the chairman, but at their opening no member of the Board is present. We recommend that a certain day in the week should be fixed for opening of tenders, and they should be then opened and scheduled according to their subjects. It is right, no doubt, that before deciding on the acceptance of any tender, the professional officers of the Board should be consulted; but the commissioners should not on the recommendation of these officers reject tenders, which it might otherwise be for the public interest to accept, without careful inquiry on their own part."

This is very good advice, as far as it goes; but it needs to be carried further. The Treasury Minute of 1846—upwards of thirty years since—desired "that every contract should be submitted to and approved by the chairman previously to its being settled." This command or advice was not, however, followed. The evil of the present practice at the Board of Works is illustrated by a

recent instance, thus remarked upon by the committee:—

"Last summer seven tenders were received for some fittings required at the Ordnance Office, Phoenix Park. Of these the highest was for £1,315, and the two lowest were respectively for £997 and £878. A tender was also sent in by Mr. Mellon for £1,025. On the architect being referred to, he advised without further investigation that the lowest tender should be rejected, in consequence of information received by him from another contractor under the Board—information which, from inquiries we have made, we believe to have been erroneous. 'On the personal knowledge' of the same officer the Board were content to reject the lowest tender, and the contract was on his advice given to Mr. Mellon, the next on the list. Now, the father and brother of Mr. Mellon are both employed as clerks of the works under the Board, and the former is the officer who, as clerk of the works in the Dublin district, would in ordinary circumstances have to inspect the execution of the works under his son's contract. We differ from the Board in thinking that there is no objection in employing as contractors persons who are nearly related to officials of the department. Whatever view and whatever precaution may be taken inside the office, in a case of this kind, it can hardly be expected that the public will be satisfied that favour has not been shown. However conscientious an officer may be, it will be difficult for him to free himself from bias in favour of a near relative of a brother official."

This is sound reasoning, which cannot be gainsayed. Of course Mr. Mellon had as clear a right to tender for the job as any other outsider, and would probably execute his work as honestly as any other contractor. Still, the rejection of the lowest tender, and the acceptance of one much higher sent in by Mr. Mellon, was wholly irregular. Even apart from this, the whole surroundings were of a nature to give rise to not unjust public suspicion. A contractor who has a relative on a public board is placed in a better position for tendering with a good chance of success than a perfect stranger. Useful information may be conveyed to him, and there is the possibility that he may know the amounts of the estimates sent in by other men if he refrain from sending in his own tender until nearly the last hour. It would be far better that tenders should not be opened on the last day appointed for receiving, but the day after, for it often occurs in public contracts that tenders are not sent in until the last day, and sometimes at a late hour on that day, previous tenders having been opened in the morning of the same day.

We thoroughly agree with the recommendations of the committee, as far as they go; and, closely associated as we are with the advocacy of architectural and building interests, we cannot take exception to the following, when rightly understood:—

"As a general rule we recommend that no tender should be accepted from the near relative of any official in the service of the Board; and in this special case to which we have referred, we think too much discretion was left to the architect. The commissioners should themselves have made inquiry before they sanctioned a course which led to an increased expenditure of £150 on a small work. We consider it was a case where 'the line was not properly drawn between the duties which ought to be performed by the Board and those which are performed by its officers.'" [See Treasury Instructions.]

Let it be borne in mind that, though directly a relative of a representative of a public board or an official thereof may be prevented from tendering, other methods are available for driving a coach-and-six through laws and bye-laws through indirect tendering. One man may tender, and *sub rosa* carry out the contract for another; and this trick is not seldom practised. A foreman or a man of straw is put forward, while the real

contractor works the oracle by supplying the money and taking the profits. Now we could unfold many a tale respecting the manipulation of contracts in Government and other boards, but we are not desirous of pointedly indicating instances which have occurred in this city for several years past. We would wish, however, to see short work made of such a vicious system, and we have a doubt if we are conscientiously performing a public duty by refraining from furnishing some gross examples of building tenders, and the means by which they were obtained and maintained. Reforms will only be slow or partial at best, if full exposures are not made of the parties who are guilty of maintaining such a system of contracting in connection with public bodies.

Col. McKerlie, the Chairman of the Board, in his "Statement," *anent* tenders writes:—

"With regard to the practice of opening tenders, it is that which has prevailed since I have been connected with the Board; but as regards their acceptance—with the exception of those connected with the engineering branch, which are examined by the commissioner in charge of that branch—all, great and small, are brought to the chairman, and examined and accepted by him; and where there are competitive tenders, in no case is a lower rejected for a higher without the fullest inquiry."

We are far from contending that the lowest tender should in all cases be accepted, for occasions must arise when persons will tender for work at a very low figure—at a figure, indeed, that would not pay them if the work should be honestly executed in labour and materials. Again, some of these would-be contractors have not the necessary plant for carrying out an expensive contract, and instances are not rare in which they fail to complete their contract, leaving a balance undrawn ridiculously out of proportion with the cost of that portion of the work which remains to be finished. A new contractor, and a substantial one, has to finish the contract at an additional cost. In works of magnitude none but a respectable and experienced contractor should be employed; but for small work there is less necessity for caution, and a chance should be afforded to steady and energetic men competent for the work, and honestly ambitious to advance their position and interests by doing their work well.

Under the head of "Miscellaneous Complaints," the committee enumerates several shortcomings of the Board in respect to Howth Harbour, the Deanery in Dublin Castle, the Control of the Royal Canal, the Four Courts Library, and some other matters. We cannot or care not to review these matters in detail. The sanitary condition of the Deanery is bad; and in respect to the Four Courts, the Benchers and their Library, the committee make the following remarks:—

"It appears from the evidence given by Mr. Litton, Q.C., that the bad ventilation and insufficient accommodation of the Library have for some time been felt by members of the Bar. Though they have absolute control over the interior portion of this portion of the building, and are prepared to remedy the defects out of their own funds, yet the Benchers seem to have thought that as the rest of the building was under the Board, and as they had no separate access to that portion of the roof which belongs to them, they could not of their own accord take any steps to improve the ventilation of their Library. They have accordingly from time to time represented the state of affairs to the Board's architect; but owing to the room not being under the charge of the Board, the architect allowed the application of the Benchers to remain unnoticed. We think the delay, and misunderstanding would have been avoided, had the Board told the Library Committee that they were free to take what action they liked about improving their own room."

Col. McKerlie gives the following explanation in reference to the above:—

"The communications from Mr. Litton, as secretary of the committee for the Benchers' Library, were addressed privately to the Board's architect. They never came in any shape before the Board or within their cognizance; and I submit, therefore, it was not in the power of the Board to have conveyed to the Library Committee the information which, it is remarked, it would have been desirable to send."

The committee wisely recommend the consolidation of acts of Parliament in relation to the Board, of which there is in one way or another above 300, several of them being merely amending acts. Several of the acts are spent, obsolete, and practically useless, and others involve a large amount of time and trouble in the matter of reference to see if they are applicable under certain circumstances.

The action of the Board, or rather their want of action, in reference to the report of Lord Lansdowne's Committee, is made a subject of serious complaint by the committee; and some sections of the Press, on the appearance of the present Blue Book, made the most they could of the neglect of the Board in not adopting the recommendations of the Lansdowne Committee. We will cite the observations made by the late committee, and in justice quote the explanation of Col. McKerlie, which we must admit gives a somewhat different colour to the whole affair than what it at first assumed:—

"In the course of our enquiries we had occasion to make frequent reference, as was contemplated in our instructions, to the report made by Lord Lansdowne's Committee in 1872, and we must express our surprise at the way in which it was dealt with by the chairman. Though your lordships' instructions respecting it were communicated to the board in a formal printed minute which was made an official record, yet the report itself—upon which the minute was framed, and without which it could hardly be properly understood—was returned by the chairman as a confidential document. We found that the report had never been communicated by him to the Assistant Commissioner or any of the officers of the department; and that as regards the general administration of the office, it has for all practical purposes remained a dead letter. We cannot think that this was the intention of your lordships, or that the course taken by the chairman has been conducive to public interests."

The above, if it stood alone without the side lights afforded by the chairman in his subsequent "Statement," would amount to a very serious charge against an experienced public official, on whom rested important responsibilities. Col. McKerlie answers:—

"I beg most respectfully to observe that the committee are under an entirely erroneous impression in regard to the action taken by me in reference to the report of Lord Lansdowne's Committee, a copy of which report was conveyed to me privately for my observations before acted upon by the Treasury. I handed it, after perusing it myself, to my colleague Mr. LeFanu, and to the secretary, for their perusal; and after conferring with the former, submitted to the Treasury a series of remarks which led to certain modifications in the recommendations made, in conference with the Commissioners of Inquiry. Subsequently, on receiving the Treasury minute bearing on the report, copies of the minute were applied for, but were not obtained. The minute, however, has been to the fullest extent in my power acted on—instructions, in conformity with the recommendations in the report, having been given not only to the Assistant Commissioner, but to other members of the staff affected also. My own copy of the report I placed in the hands of the private secretary for the general information of the staff, and has been examined, I believe, by many of them. It deeply pains me to find my action—or rather supposed avoidance of action—in the matter so unfavourably commented on. I feel that to have ignored the recommendations of the report would have been to indicate a want of respect and deference to their lordships' wishes—conduct utterly inconsistent with the anxious desire I have, I trust,

ever evinced to conform to such wishes to the utmost extent in my power. I would only beg to add that the inquiry here in question was granted on my own urgent application with a view to obtaining additional assistance, and increasing the efficiency of the department."

In the "General Review of the Board's Administration," the committee summarise the points of strength and weakness in the action of the board, and give praise where, to our mind, praise is deserved; for the Irish Board of Works, it must be admitted, carries a heavy burden on its back, and its duties and responsibilities are heavy and numerous.

We will again return to the Report, to take note of some more not unimportant matters, with a view to needed reform in the future administration of the Board of Works.

### MELBOURNE EXHIBITION BUILDING.

We present our readers with a lithograph illustration of the accepted design for the proposed International Exhibition to be held in Melbourne in the year 1880. It is by Messrs. Reed and Barnes, of Melbourne. The site suggested for the erection of this ornate structure is at the south end of the Carlton Gardens, with frontage to Victoria Parade. Our view is copied from the *Australian News*.

### NEW BUILDINGS AND IMPROVEMENTS, OXFORD.

CONSIDERABLE building improvements, comprising new erections and additions, have taken place both in connection with the University and the city during the past twelve months. On these works several well-known architects have been engaged. The *Oxford Journal* gives lengthy details of the works. At the University Museum, in the Park, a two-storey building, as an addition to the chemical department, has been erected from the designs of Mr. T. N. Deane. The style of the building is in keeping with the rest of the Museum, and it is in length about 134 ft. by 24 ft. in depth. The addition is in a line with the front of the Museum, and is on the south side, and it is so near completion that it will be handed over to the curators in a few weeks. Judging from the number of professionals who have had, and who still have, occasion to visit Oxford and its University in connection with their engagements, there was no want of facilities for fraternisation or consultation for common interests, whether the subject concerned difficulties in style or practice, or on the still debatable ground of "restoration."

### IMPROVEMENT OF ARKLOW HARBOUR.

In the report of the directors of the Wicklow Copper Mine Company, submitted to the shareholders yesterday, they refer to the condition of Arklow Harbour, and what has been done towards its improvement:—

The improvement of Arklow Harbour has engaged the anxious attention of the directors. The matter now stands thus:—The Government having expressed their readiness to provide the £26,000, estimated as necessary for the improvement of the harbour, if the repayment of the loan half, £13,000, were adequately secured, the directors, after consultation with the bondholders and with their assent, have offered to recommend the shareholders to give the Government a first charge on all the company's property for the repayment of the loan, the present mortgagees of the company being satisfied to allow their charge of £13,500 to rank second, in order that the improvement of the harbour and the con-

sequent better protection of life and property may be secured. As in this way the Government condition will be fulfilled, the improvement of the harbour should be assured, unless some adverse influence should be brought to bear to prevent the company from being the medium of effecting this important local and public improvement. In the meantime, the directors have undertaken and carried out extensive repairs and alterations on the quay walls, to render the wharf accommodation of the harbour as complete as possible. Over 500 ft. of the quay wall from above the coal yard to the swivel bridge contained a number of breaches which had to be rebuilt from the foundation, and nearly all the coping for the entire length had to be reset and a considerable length of this coping provided. From the swivel bridge to the crane opposite the manure works—610 ft. in length—an entire new quay wall has had to be built, and the completion of these works will render the quayage at the north side of the river very perfect.

### THE COUNCIL BOOK OF YOUGHAL.

Dr. Richard Caulfield, of Cork, has recently published "The Council Book of the Corporation of Youghal." The first entry is 14th September, 1610. Towards the close of the next year the following rules and ordinances were agreed upon, to be observed in said town and its liberties:—

Imp. That every penny loaf shall weigh at the least 20 oz.

It. That the raunged bread weigh every penny loaf at least 2li.

It. That the household bread weigh every penny loaf at least 2½li.

It. That a pottle of the best English heer be not sold for above 3d.

It. That a pottle of the best beer here brewed in the country be not sold for above 2d.

It. That the pottle of table beer be not sold for above 1d.

It. That the best quarter of beef be not sold for above 4s.

And the rest rateable of all flesh or victuals, according to the discretion of the appraisers.

It. That no chandler or other sell his candles for above 3d. per lb.

It. That no brogmemaker do sell his brogues at any dearer rate than—Men's brogues at 10d.; Women's do., 6d.; Children's do., 4d.

It. That no ship carpenter do receive for his wages per diem, with meat and drink, above 6d; without ditto 12d.

It. That no house carpenter have ut supra with meat and drink above 6d, without ditto 12d.

It. That no masons have and take the same wages of (ditto) 6d. and 12d.

It. That every common labourer have per diem, ut supra, 4d. and 2d.

It. That the owners of boats receive not for the hire of their boats, for every voyage up the river to Tallow bridge, said boat being of burden equal to Morris fitz John's boat, and so rateably, 2s.

It. That no waterman take for any such voyage, with meat and drink, above 9d.

For the defence of the town the following ordinance was made on the 9th of April, 1619:—

9 April, 1619.

Ordered by the maior, &c., that every house-keeper of the town and liberties shall be provided of a halbert or a blackbill, to have in readiness, &c., to come to the watch at night, and not to come with sword or pike, for it is not sufficient weapon in peaceable tymes, &c.; each of them to pay 5s. to the mayor before May day next or their halbert and blackbill by Midsummer next, under pain of 6s. 8d. It. That every freeman that is clear of his master, and not 'prentice or partner with any man, shall watch when his turn comes, on pain of a noble. It. That every housekeeper before Midsummer shall provide sufficient weapon or munition for the setting forth of one man for the strength of the town, to have a good sword by his side, a colliwer or musquet upon his shoulder, powder and bullets accordingly; and every man that hath not a piece shall have a good sword by his side, a lance or pike upon his shoulder, on pain of 40s.

It. That every resident within the town and liberties shall truin and muster thrice a year for the good of the town, viz., May Day and Easter Tuesday, from the age of 16 to 50, Aldermen and those of the Council excepted, to be ready to accompany the Mayor, every man to have a sword by his side, and a pike or a sword, and a piece with powder, and if he fail, to pay 10s.; and it shall be lawful for a constable, with the captain or officer authorised by him, to take their distresses.

## AN EIGHTEENTH-CENTURY PROJECT OF AN IRISH NATIONAL THEATRE.

At one of the sittings of the Social Science Congress Mr. George Godwin read an excellent paper on the "Project of a National Theatre," one which might be established, and which would not be wholly dependent on the prevailing dramatic taste of the period. It is not the first time that the author of the paper advocated the same project, and it appears to be gathering strength the more it is ventilated.

We do not propose now to go over the same ground as Mr. Godwin, for what he has said is well said; but, *apropos* to the subject, we will cite some historic facts to show that the project of a national theatre in the early years of the eighteenth century in Dublin was near being carried into effect. Thomas Elrington, who was for nearly twenty years the great ornament of the Irish stage, about the year 1732 conceived the idea of building a new theatre off Aungier-street in this city; and, shortly after consulting the architect and making preparations for commencing the work, Elrington died of malignant fever at his residence, Drumcondra-lane (now Lower Dorset-street). Elrington, it may be added, was buried in St. Michan's Church, near to the remains of his father-in-law, Joseph Ashbury, who died previously, in 1720, at the advanced age of eighty-two. Ashbury was one of the best actors and teachers of his time, and the Irish stage is much indebted to him. He was Master of the Revels in Ireland under five monarchs, beginning with Charles and ending with George I.

Notwithstanding Elrington's death the new theatre at Aungier-street was commenced, and the first stone, or rather the first four stones, were laid with great pomp and ceremony on the 8th May, 1733. The first stone was laid by the Right Hon. Richard Tighe, the second by the Hon. General Naper, the third by William Tighe, and the fourth by the architect, the Hon. Sir Edward Lovet Pearce, Kt., Surveyor-General of his Majesty's Works in Ireland, and the architect of the Irish Parliament House in College-green. In our "Notes on the Early History of the Irish Stage" we gave particulars of the ceremonies and rejoicings that signalled the laying of the first stone of the Aungier-street Theatre. The building was raised with great expedition, considering the period, and in ten months was finished. The opening night was 19th March, 1734, with Farquhar's "Recruiting Officer." Three of the principal characters were sustained by the Elringtons—Joseph, George, and Frank playing respectively Captain Plume, Captain Brazen, and Bullock. The Duke of Dorset (the then viceroy) with his duchess attended on the opening night, and the theatre and the performance appeared to give satisfaction to the full audience that was present.

Hitchcock, in his "Historic View of the Irish Stage (1788-94)" thus wrote of the project contemplated:—"There certainly never was a more noble or disinterested design than that first formed of building and conducting this theatre. Its principles were the most liberal and extensive that can be conceived. The plan at first laid down by the subscribers, if properly carried into execution, would in a short time have produced the grandest theatrical constitution in the world, even superior to the boasted Athenian drama. The proprietors were noblemen and gentlemen of the first rank and consequence in the nation, who, actuated by the noblest motives, agreed to superintend the concerns of the stage, endeavoured to advance its interests, and fix it on the most permanent and nourishing basis, without the least idea of emolument in return. A committee was chosen from amongst them, a chairman appointed, and every Saturday they met to appoint plays, distribute parts, and settle a great variety of business, which unavoidably arises from so great an undertaking. All the profits and emoluments accruing from the performances, instead of going into the purses of

private persons, were solely to be dedicated to the public service. As the scheme extended, the best performers who could be procured were to be engaged, pieces of undoubted merit were to be revived and brought forward, the wardrobes and scenery to be enlarged, and every decoration which the hand of taste could point out to be adapted to adorn the theatre. Such were the outlines of a design which promised as splendid dramatic entertainments as Greece or Rome ever exhibited. How worthy of imitation!"

Most worthy of imitation we repeat, and, under the greatly changed conditions of the times, with certain modifications and safeguards, worthy of imitation still. Alas! though fair and flattering in the prospect the design of an Irish National Theatre never came to maturity. More than one reason was put forward why the project failed in Dublin at the time; but these reasons need not be discussed. Experience proved, however, that the new theatre proved to be badly constructed, the architect having failed in two great essentials (deemed requisite at the present hour)—hearing and seeing. We are told it required uncommon power of voice to fill every part of the house, and on full nights a great part of the people in both galleries could neither hear nor see. Sir Edward Lovet Pearce failed where great architects failed, and his age was not a great building one; and architects, no more than other men, devoted little time to the study of acoustic principles. As an architect, Sir Edward Lovet Pearce's fame still honourably exists in connection with the architecture of the Irish House of Parliament, a building sometimes credited to Richard Castles, the architect of Leinster House, the Rotundo Hospital, and other Dublin edifices.

Whether the project of establishing another Irish National Theatre will ever be again revived, or, what is more, carried into execution, is more than we would venture upon answering in the affirmative. In London there is every facility for attempting the enterprise, but whether it will be accomplished partly by a state subsidy, and partly by a committee of independent gentlemen, true lovers of the dramatic art, one thing is patent, that there is need of one truly National Theatre which would not be controlled by the erratic and often low prevailing taste of the time.

## THE SCHOOL OF ART.

It will be seen by our advertising columns that the various classes for drawing, painting, and modelling will be continued during the present month. Opportunities are afforded both in Kildare-street and Marlborough-street Schools for our artisans to learn much that will be of material use to them in their various trades.

## IRISH GRANITE IN PARIS.

AMONGST the exhibits at the Paris Exhibition is one (in Class 66) from Messrs. Hugh Campbell and Son, Moore Quarries, Newry. It consists of a polished grey granite monument in column form, with urn, standing 9 ft. in height and 2 ft. 3 in. square at base. This specimen displays the excellence of the material with the highest possible effect, which is further artistically heightened by portions of the base being rough-hewn or "axed." This granite is probably unrivalled in its purity and uniformity of colour, and the mirror-like polish which it takes. The immense size of the blocks that are obtained from this quarry without a flaw of any kind is something remarkable. Messrs. Campbell claim for their material that it never fades or loses its colour. This is an invaluable quality, when we consider the number of granites which, though beautiful in appearance when first cut, yet after a few years' exposure to the atmosphere, acquire a dull, dead, uniformity of greyness like mountain limestone. Messrs. Campbell have been awarded a bronze medal.

## A COLOSSAL GLASS SIDEBOARD.

AMONG the furniture exhibits at the Paris Exhibition, now drawing to its close, is a splendid crystal sideboard, manufactured by Messrs. Osler, the same firm who gained notoriety by their crystal fountain in the London Exhibition of 1851. The same house exhibits a crystal throne, and some of the largest crystal chandeliers ever produced. A correspondent in a London daily paper describes this sideboard of Gothic design, and, with the exceptions of the mouldings of the arches, which are of gold, and the top of the *buffet* and the base, which are of ebony, is wholly composed of glass—glass in sheets, glass in huge sheets, glass in blocks, in panels, in pilasters, in brackets—huge wedges, and quoins, and crockets, and finials of crystal, thicker than the inexperienced observer could imagine to have ever been cast and hewn and cut and polished from so ostensibly fragile a material, but which look, nevertheless, as hard as adamant, and which have the sheen and the rainbow hues of diamonds of the purest water. The seat of the throne—fittest, perhaps, to serve as the judgment seat of some Eastern potentate—is of crimson velvet. The arms, legs, and back are all of pure and radiant crystal. While the exhibit is distinguished for the vast size and rare quality of the large *lustres*, equal excellence is shown in a varied assortment of smaller chandeliers and *girandoles* of artistic metal work in combination with crystal glass. These last-named articles are especially worth attention. We have done some surprisingly good things in brazen and bronze-gilt chandeliers, the only drawback to which as articles of decoration is that they are somewhat heavy in appearance, and have too much of a strictly ecclesiastical, or at least mediæval, look; but in the new combination introduced by Messrs. Osler the impressive grandeur of artistically-worked brass or gilt bronze is combined with the elegance and the lightness of the crystal surroundings. Early English still holds its place in the public favour at home, as a style of decoration eminently suitable to our wants and wishes; and Messrs. Osler have produced an article the design of which must fully satisfy the æsthetic tastes of the admirers of Pugin, of Gilbert Scott, and of Street; while at the same time it ministers equally to the enjoyment of those who love the elegant richness of the Italian, and especially of the Venetian Renaissance. Ample illustrations are also given in the Osler display of lamps and candelabra; and it is well for the credit of our glass manufacturers that such an historic firm as Messrs. Osler's should have shown their thorough capacity to produce not only the monumental articles—the *grosses pièces*, the contemplation of which astonishes and delights the spectator, but which only emperors and kings, or sultans and rajahs, could purchase—but likewise smaller and more portable objects in glass, exquisitely pure in material and perfect in artistic design, and pecuniarily within the means of those who wish to decorate their houses handsomely, but without ruining themselves.

## NOTES OF WORKS.

The foundation-stone of a new wing to the Presbyterian College, Belfast, has been laid by Mrs. Henry Gamble. The new building will comprise a chapel, professors' residences, students' chambers, a faculty room, and president's residence.

A stained-glass window has been erected in the parish church, Kells, Co. Meath, as a memorial to the late Marquis of Headfort. The design was furnished by Mr. J. F. Fuller, architect, and carried out by Messrs. Heaton, Butler and Co., London. The stone-work was executed by Mr. Henry Sharpe, a local builder.

The tender of Mr. James Murphy, Dalkey, has been accepted for the construction of a main sewer along the Colamore-road in that township. To cost £190.

## THE CORK HARBOUR BOARD AND CORNISH GRANITE.

Who would bring coals to Newcastle? Who? Why those, to be sure, who would bring granite to Ireland! Where are we to look for patriotism, if not to Cork, the country of the O'Donovans (of Skibbereen and Ross, or Rossa, as Jerry loves to call himself), the O'Learys, Desmonds, Downings, *et hoc genus omne*? Where shall the love of their country's prosperity be found, if not in the breasts of the home rulers? Even the men of peace, the Society of Friends in Cork, have not been slow to exhibit their love of home and fatherland when occasion required; and we know of a house in Nile-street, down the steps of which a royal duke was made to hurry by the impetus of anything but a "quaking" toe, for not knowing how to behave himself with the propriety that Cork, ever true to its instincts of patriotism and its synonym virtue, demanded.

But we fear that a cloud is coming over the spirit of this dream, and the city which has produced members of the building trades second to none in the world, with the master minds of Notter, Deane, Barry, Hogan, G. R. Paine, R. R. Brash, and a host of others, is now begetting another sort of animal—a harbour commissioner who can wander to Cornwall in search of 400 ft. of granite coping. Now, we have nothing to say about an individual's acts; if a half-paid engineer should wish to make friends with the Cornish mammon of unrighteousness, that is his affair; but we consider it our duty to remind the Cork Harbour Commissioners that there is granite in Ireland—that 80 per cent. of all the Irish lighthouses are built of granite, the exception being limestone from Carrickacrumph, Milverton, Foynes, and Ballintemple. That most of the public buildings in Ireland, the Thames Embankment in London, the great north and south walls of Dublin, and the O'Connell Monument in Glasnevin, are all of Irish granite; but 400 ft. of coping for a quay in Cork must be got from Cornwall. Prodigious! What could the architect of the Tuskar Rock Lighthouse be thinking of, who, in 1813, built that noble structure of Killiney or Dalkey granite; or that other architect who, in 1867, permitted the dwellings to be erected on the Rock with granite from Aughrim in the County Wicklow, and Cornwall, as one may say, "just opposite?" Did he not get all the granite with which to fill in the monster chasm of the Fastnet Rock from Carroll, of Kingstown? whilst the limestone for the Calf Rock dwellings came from Walsh, of Foynes. The greater part of Trinity College is built of County Dublin granite, and we must not forget Kingstown Harbour; but then who could expect Cork to follow Dublin? Have we not heard inhabitants of the "Beautiful City" laugh at the Dublin brogue; and we were not a little surprised at the engineer stating in his report "that the Cornish stone is at present employed in the construction of the docks at Glasgow, and on the new (?) bridges at Dublin," as some apology for recommending it.

We are not of those who would accept of Dean Swift's advice to burn everything English excepting her coals. Should we require material from England, or even Cornwall, we would be as proud to embrace the help as to contribute our assistance to her prosperity; but, without belonging to any political extreme, we are home rulers so far as looking at home goes, and insisting (but not in mere frothy declamation) that there is where charity should begin.

Whilst acknowledging that there are many good specimens of granite to be had in Cornwall, as a rule the product is very uncertain and variable in quality; and although stone of a reliable structure can be got near Falmouth, in other parts of the county or duchy it is soft enough to be used for kaolin—a circumstance that should suggest caution to the inexperienced architect or engineer—a profession not acquired by intuition, although some members of harbour and other boards

may be oblivious of the circumstance. The Dublin Four Courts are built of Dalkey granite; but it is a strange fact that our non-professional readers may not be acquainted with, that the gate entrances were erected with granite from the quarries of Lamorna, the only large quantity of Cornish granite ever used in Dublin. We can all remember how these portions became in course of time ruinous, and some few years ago had to be rebuilt; and we would caution the Corkonian Harbour Board against a saving of three pence in the foot that may result in an ultimate expenditure of as many hundred pounds.

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## THE CHEMISTRY OF DIRT.

THE above was the title of a paper read by Dr. Bartlett at Sanitary Institute of Great Britain during its recent Congress at Stafford. We print the more important portions of it:

The popular mind has been long familiar with the aphorism that "dirt is matter out of place." My object is not merely to prove the truth of this definition, nor to expand the idea only for the purpose of demonstrating that the matter out of place would be valuable if it never got lost. Something wider in scope is aimed at, although the subject can be but touched upon within the compass of the present paper. I shall be content if I can enumerate and describe a few of the strayed particles which find temporary but uncongenial resting places where they are not wanted, and, more particularly, if I am able to point out some of the means by which several of the dangers inherent to dirt may be conquered or avoided.

Dirt comprises a little of all sorts—solids, liquids, and gases. These the air continually takes up by suspension or absorption, to deposit or diffuse them as the case may be; and sometimes the very methods adopted to cleanse or purify our dwellings add to the real dirt; and while the "sempiternum" is whitened, the emanations exude, "noxious as from dead men's bones."

We may successfully trap and disconnect all communications between the house drains and the sewers. Poisonous exhalations may be stopped from making their way into our living rooms or sleeping chambers, instead of being "laid on direct from the elongated cesspools, mis-called sewers," as is too often the apparent object of the construction of house drains. But there are no dust or gas proof doors or windows, and the insanitary architect or decorator covers up the festering filth on the walls with another seemingly clean paper coloured with arsenic, or paints with deleterious pigments. A great deal of dirt passes by the nose and mouth into the lungs and stomach without being perceived by either taste or smell. Very little absolute dependence, however, can be placed upon the critical judgment afforded by the best senses of the olfactory or gustatory nerves. Very strong-flavoured dirt fills and saturates the atmosphere of many loathsome manufactures without disgusting the workpeople who are used to it. All delicacy of perception is lost to those who are continually subjected to the influence of noxious smells and flavours; but it is remarkable that the workmen employed in the most noisome trades, such as catgut making or glue boiling, are not equally insensible to the unpleasant odours of petroleum distilling, or those incident to the preparation of fish manure.

I have remarked that persons living in malodorous localities are particularly devoid of perception in regard to those smells and tastes which are more or less of the same class as that to which they are accustomed, but in a lesser degree their appreciative sensations arising from other causes are blunted, and rendered incapable of receiving a ready warning.

Of the dirt which passes into the lungs without being known to the inhaler, we are already aware that very considerable quantities of insoluble mineral dust are, in some instances, conveyed into the air passages and become impacted there. Stonemasons, Sheffield grinders, and coal miners gradually charge their lungs with visible and tangible accumulations of grit, steel particles, and coal dust. So obvious, indeed, is the clearly-defined carbonaceous deposit in the lungs of those who constantly inspire the more strongly smoke-laden atmosphere of certain factory districts, that I have been able to procure many specimens of lung tissue in which a perfectly black dense network is shown in the portions mounted for microscopic examination. These microscopic slides may now be procured of any optician, and are sufficiently instructive in proving to the eye that which, although not so apparent in other cases, is equally well demonstrated by a

minute chemical investigation. Besides the insoluble mineral particles which blow about, we have organic matter in a finely-divided state, prone to putrefactive decomposition, especially when it comes in contact with the moisture of the mucous membranes. Some are swallowed, some adhere to the membranes, and are there centres of corruption. Among these, or carried by gaseous emanations, the specific poisons of typhoid and cholera are believed to lurk; and within a certain range of small-pox and scarlet fever cases, these diseases certainly throw off toxic matters which impregnate the walls and ceilings so as to be capable of reproducing the diseases for a considerable period.

We find the dirt of hospitals to consist of epithelium and pus cells, fibres from woollen, linen, and cotton fabrics, the dead bodies of minute insects, and the germs of bacteria and others, similar to the gelatinous cells of the rhizopoda. The *omnium gatherum* of debris of various organic matters, together with the mineral detritus, may be said to form the ballast which precipitates with it the lighter portion of the dusty dirt of which I have been treating. The examination of the air in badly-ventilated hospitals shows, only in a more concentrated form, much the same description of suspended matter as may be found in some of the most crowded localities. Everywhere we may discover salts of ammonia, carbonate and phosphate of lime, silicate of alumina, chloride of sodium, carbon, particles of dried excreta, and many kinds of starch corpuscles with spores of fungi.

In the streets, the nitrates formed from decomposed horse manure exercise a strong reaction against the oxidising influence of the purer air, and there is great cause to believe that the reason why typhoid and choleraic excreta is so much more active in poisonous influence, after fermentation has culminated, may be found in the presence of nitrates resulting from decomposed sewage of long previous date. Specific poison protected in its association with the well-known everyday dirt by deoxidising nitrates may be dried up and remain dormant for an almost unlimited time. A waft of air, a low condition of vitality in the passer-by, and that peculiar reciprocity which occurs to all of us now and again, and with the assistance of the dirt we hear of another case of typhoid which cannot be accounted for. How can the dairyman prevent minute particles of such dried-up dirt from getting into his cowsheds, his milk, and his utensils? That is a question which has already been solved to my own knowledge in one case. Mention is made of the dairyman's difficulty, namely, dirt, because in so many instances outbreaks of specially engendered epidemics have been so clearly traced to the retailers of typhoid, the uncleanly milk dealers.

I have scarcely been able as yet to get in a word about volatile dirt, and thus open up a most interesting and valuable field for those who, like myself, have made a special study of the examination of air with a view to ascertain its purity or impurity, and as to the best means of removing aerial dirt, and preventing its accumulation. I include among the volatile matters, which constitute, perhaps, some of the worst forms of dirt, the molecular æiform nitrogenous emanation from the lungs which is not nitrogen as a gas, and is yet capable of being oxidised into ammonia. And I also class with these the vapour of water when contaminated by noxious gases, and the noxious gases which may float in the air without the assistance of moisture. I will not now treat of carbonic acid because, fatal as it is when it collects in situations where there is no free ventilation, and objectionable and injurious as an undue proportion must be, a moderately effective inlet of fresh air at the levels of the room will diffuse the excess of carbonic acid so as to practically minimise its effects. This cannot be so readily effected when we have to deal with the other emanations from the lungs and skin, and we find the æiform nitrogenous matters, the volatile fatty acids, the ammoniacal carbides and sulphuretted hydrogen gases, do not diffuse quickly or evenly if samples of the air be taken for examination at any level of the room.

The fœtid atmosphere of confined living or sleeping rooms, the exhalations from crowded assemblies in badly-ventilated theatres and churches, and the concentrated impurities of some of the old gangrenous hospital wards, are but variations of aerial dirt, which if filth-fever be the correct term for typhoid, must be considered as analogous to the *nidus* of that and other fell diseases. The products of the combustion of coal gas, paraffin oil, candles, and bad fuel, imperfect as the combustion usually is, send into our apartments all kinds of volatile hydro-carbon compounds from coal tar to acrolein. Neither will I expatiate further upon sewer gases except to mention that the refuse of various trades, which sometimes pour away their waste, occasionally produce intolerably poisonous vapours. The excrementitious matters also yield by decomposition

equally deadly compound ammonias, which actually condense in brown dirt spots on the walls of the closets and rooms into which these vapours find their way. . . . They must make war against dirt in any and every form, to accomplish which the best scientific advice and supervision is required. Less than the most advanced knowledge of the subject will not be found successful, for dirt assumes an affinity of disguises, and creeps in under many unsuspected cloaks. Untiring watchfulness and an intelligent comprehension of the details can alone combat with the ever present and insidious enemy. True cleanliness is a matter of minutiae, and admits of no subterfuge. If dirt can find a crack, a ledge, or an absorbent surface, which cannot be reached by the ordinary method of cleansing, there dirt will accumulate, and where dirt is there will disease be also.

To avoid the possibility of dirt finding shelter in our domestic habitations, what must be done? Carry out, says the scientific sanitarian, the minutiae of cleanliness, by insisting upon an almost microscopic inspection, and use every valid means to maintain the large surfaces of the walls and ceilings as free as possible from injurious matters which may be absorbed or given out.

If we are to look to our neighbours for painstaking cleanliness, we must go to Holland for example, where it is popularly believed that no gastronomic injury would ensue from dining directly off the flooring boards or tiles. Beyond the delightful duty of scrubbing everything which is not painted, the Dutchman and his wife find no such esoteric and sanitary delight as in painting everything which cannot be scrubbed or rubbed bright. And the Dutchman is right. No layer upon layer of paper hangings, with brown, gray, or green arsenical dust to slowly poison the more susceptible of the family. No sham plaster walls, porous to sewer gas, and corrupted with putrified paste, can be allowed. If we have lath and plaster let it be painted, and if we cannot have wainscot or mahogany kept brilliant by continual cleanly friction and polish, let us have a clean painted wooden surface. As artistic in tint, and in the disposal of the colours and decoration as taste and means will afford it, but to carry out a determined war against dirt and disease let us have paint. These are no longer notions peculiar to the Dutch—they are sanitary axioms which we cannot afford to ignore.

### THE R. C. CHURCH OF ST. CANICE, AGHABOE.

The *Freeman's Journal*, in describing the ceremonies which took place at the above church on the 12th ult., says:—

"The Most Rev. Dr. Moran, Lord Bishop of Ossory, presided and preached at the sacred ceremonies attending the consecration of the new high altar in the beautiful new church of St. Canice, in the parish of Aghaboe, Queen's County, on Sunday, St. Canice's, it will be remembered, was dedicated in all but finished majesty last November. Externally it might rank with the churches of proud cities—an exquisitely shapely Gothic mass of blue limestone, with traceried windows, corbels, and gargoyles, picked out in Wicklow granite, and a stately square tower, pierced by ogee, worked like filagree, all set upon the breast of a swelling height, whence the eye ranges for many a luxuriant mile over the fattest plains of the Queen's County, with the storied ruins of old Aghaboe planted close by. The wonder is not that so fair a temple should have taken some £12,000 to place it upon its throne, but by what incredible efforts of piety on the part of the people, and heroic zeal on the part of their pastor, the patriotic Father Mat O'Keeffe, so vast a tribute was laid upon the altar in a comparatively poor and scattered rustic parish. Miracles of the sort, however, are wrought so thick around us that we have almost ceased to wonder. Internally a good deal remained to be done, and generous benefactors have not been slow to do it. The aisles are screened by arcades supported on columns of polished black marble. The floor of the church is comfortably seated, the sanctuary is tessellated, the high-pitched roof is panelled with oak; there is an organ gallery and a soft-voiced little organ. Lord Castletown has been a prince among the benefactors of the church. He contributed the fee-simple of an Irish acre of ground for the site. He contributed liberally to the building fund. He made a present of the altar rails, of rich suites of vestments, of the massive silver lamp which swings before the high altar. But his crowning benefaction was the gift of the high altar itself, a magnificent mass of carved and polished dark oak, sculptured in an almost forgotten style of prodigal art in the tabernacle, the antependium, and the reredos. This was the rich table at which the Holy Mass was for the

first time celebrated on Sunday. The beautiful traceried window behind the altar is filled with a magnificent group of subjects in stained glass, all contributed by the munificence of Mr. Phelan, of San Francisco, in memory of old associations with the parish. The Crucifixion is the central subject, and the wealth of figures, colours, and exquisite outlines is worthy of the happiest of the artist's handiwork. Mrs. Grace, of Gracefield, has contributed the lamp which hangs before what will yet be the Virgin's altar. The high altar having been consecrated on Saturday, Sunday's ceremonies commenced with a High Mass *coram episcopo*."

### THE INSPECTORSHIP OF THE IRISH LIGHTHOUSES.

THROUGH the retirement, from disgust at the salary, of the late Inspector of Irish Lights (who has been directed by the Admiralty to join his ship the "Valorous"), an opportunity has occurred of which we trust the commissioners will avail themselves to reward merit and good service. We have little doubt an attempt will be made by the Board of Trade (as on a recent occasion) to interfere with the appointment; but we take leave to remind the commissioners that such an attempt was successfully resisted in 1863 (by the late Mr. Codd, at that time the Board's chairman and mouthpiece), and to express a hope that a like stand will now be made against aggression.

A careful perusal of the Mercantile Shipping Act will fail to shew any warrant for interference with official appointments. It is to be deplored that the salaries are under English rule, but the appointments are solely in the commissioners' hands, unless, as on the 2nd February, 1875, and more recently, they permit illegal meddling. If this were not the case, a certain aspirant returned from a five years' service in Japan would have had an easy walk over. Everyone who has the pleasure of knowing the present assistant inspector can vouch for his peculiar fitness for the office. As a sailor he won his laurels at the Crimea, and received distinguished notice from Lord Lyons, after which he succeeded to the command of one of her Majesty's ships in China, and on his return to England was appointed captain of the Irish Lights' steam yacht "Princess Alexandra," from whence he was made assistant inspector of lighthouses and lightships—a man possessing all the knowledge of an accomplished sailor and navigator, and the geniality of an Irishman; but the last, we regret to say, is no recommendation. However, it is to be hoped that the Board will consult their archives, repeating the course in this instance that had such a good effect when the consulting engineer was appointed in 1863, and resist any attempt at placing an outsider over the head of Capt. A. F. Boxer. But if he is obliged to compete for the position which should by right be his, we would suggest that the legerdemain system of voting will be dispensed with, as not at all creditable to those who would wish to hold their heads high in the mercantile community.

### PAVING EXPERIMENTS IN LONDON.

An experiment with reference to two new systems of paving (says the *Builder*) has been going on under the auspices of the city authorities during the past few weeks. The locality in which the novel systems have been tried is Shoe-lane, which was selected as affording a fair test of the average wear and tear in a London street, the traffic passing along that thoroughfare between St. Bride's-street and Holborn being, indeed, very large. The principal material in the first system is granite. The blocks, however, are not like those commonly used, of a depth of 9 in., but are merely 3 in. deep. Beneath the granite, and laid on a bed of concrete, are sheets of thick felting; and another peculiarity is that the interstices between the separate stones, instead of being filled with mortar, or sand, or tar and gravel, are filled up with lead, or rather an alloy in which lead is the main ingredient. Passers-

by cannot help remarking the great diminution of noise as vehicles pass from the ordinary 9-in. granite paving over this short reach of 3-in. granite, felt, and lead pavement. So far as we can judge from personal inspection, this 3-in. granite as laid down in Shoe-lane will require a good deal of improvement before it can be adopted in place of any of the systems now in vogue. A week after it was laid down we noticed that it had become very uneven on the surface, and that a portion of the metal had been driven out of the interstices more or less over the whole area.

In the other system the principal material consists of asphalt. This is prepared in oblong bricks of about 15 in. long by 9 in. broad. They are ready for laying down, and can be very rapidly fixed, the process being very simple. They are laid on a bed of concrete without felt, and their chief peculiarity is that at intervals of 3 in. to 4 in. flat stars of iron are visible all over the surface, this expedient being intended to do away with the slipperiness, which is so great an objection to ordinary asphalt, by presenting a sufficient roughness or elevation of the surface to form a firm foothold for horses. On comparing this new asphalt and iron pavement with the old 9-in. granite and the new 3-in. granite, felt, and lead pavement, it is obvious that while far quieter than the former it is inferior to the latter in point of absence of noise. The iron stars appear to serve their purpose very well, and we shall not be surprised to hear that the asphalt and iron pavement proves a useful addition to the systems already in existence.

### ADVERSARIA HIBERNICA,

#### LITERARY AND TECHNICAL.

WE fear that there are very few persons alive at the present hour who remember the Military Camp at Loughlinstown, unless these persons are nearing their centenarian period. It was not so in our schoolboy years, or, indeed, a quarter of a century ago, for we well remember old men who had lively recollections of the Loughlinstown Camp and the subsequent Rebellion and Insurrection of 1798-1803. An engraving of the camp by Samuel Clayton will be found in Ferrar's "View of Dublin and Town to Bellevue, Co. Wicklow," 1796. The camp was formed in May, 1795, and extended over 120 acres. It was described at the time to be extremely well situated for the purpose, watered by a mountain river and a perpetual spring capable of supplying an army of 20,000 men. It lay on two hilly ridges, having the sea in front, and the Wicklow Mountains in the rear. On the first and second lines were sixty-four wooden houses or huts, each containing thirty-six privates and two non-commissioned officers. On the third line were the captains' and subalterns' houses, in some of which three were quartered in distinct apartments. On the fourth were the staff, to the rear of which were the mess houses and kitchens, with the quarter guard in front, making in all 125 houses. At the Loughlinstown Camp the wooden houses were first intended for the summer's campaign, but as disturbances were shortly expected and the Rebellion was looming (if not prepared for) in the distance the military and government authorities deemed it advisable to prepare for a winter quartering. The houses were accordingly pitched, canvassed, and made waterproof. Those of the privates were furnished with a large stove, contrived that the men could "cook their kettles on the top of the stove, the heat communicating to every part of the house." The officers had small stoves. The houses, which were said to answer every purpose for which they were intended, were introduced by the Earl of Carhampton, at the time lieutenant-general of the ordnance.

The stoves above mentioned were the invention of Thomas Burgh, deputy-general of the ordnance. In May, 1796, a large stove was put up at the rear of each regiment, capable of cooking sixty kettles at once, and



MELBOURNE EXHIBITION, 1880.—ACCEPTED DESIGN.

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serving 700 men daily. The resident officer at the camp was Mr. Commissioner Davis, and the surgeon-general to the camp was Mr. Osbré. We are told that the men were remarkably healthy, yet we opine it was more on account of the healthy situation of the camp than of the sanitary regulations or appliances present, of which we hear nothing. There was a review of the troops shortly after the formation of the camp in August, 1795, by the Earl of Camden, the Lord Lieutenant; and in March, 1796, there was another review, when the Lord Lieutenant, we are told, expressed satisfaction at the comfort and cleanliness of the men. No doubt the officers' interests and comforts were well looked after at the Loughlinstown Camp, for there appear to have been a ball-room and coffee-room supplied with Irish and foreign newspapers; and there were also at times public breakfasts, patronised by the Countess of Granard, Lady Emily Stewart, and others of the nobility and gentry.

The winter's encampment in the wooden houses was occupied by the artillery on the right, the Argyll Fencibles on the left, and the Aberdeens Fencibles and Longford Militia in the centre, making in February, 1796, a total of 1,900. The entire length of the line from right to left was one third of a mile, which space was gravelled 40 ft. in breadth. Every regiment paraded opposite its own lines, and in the centre was the grand parade where the guards were relieved every morning. The Loughlinstown Camp was a novel exhibition at the time, and attracted a good number of city visitors; but camping soon after in Ireland became common—a large one being formed on the Currage before or during the Rebellion. We may add here that the view of the camp, as engraved by Clayton, shows on the right the ruins of Old Rathmichael Church, the scenery at Mount Eden, terminated by the Sugar Loaf Hill. In front are two lines of wooden huts, with the officers' ones in rear, and the women's huts under the hill. On the left is Loftus Hill and Grove, with the Malpas Obelisk, Killiney Hill, and Bray Head.

We picked up on a bookstall lately a copy of a somewhat curious Dublin printed work, entitled "The Analogy of Divine Wisdom in the Material, Sensitive, Moral, Civil, and Spiritual System of Things—in Eight Parts." By Richard Barton, B.D. This book was printed for the author, and sold by George and Alex. Ewing, in Dame-street, MDCCL. If the reader bears in mind what was said by Mr. Spottiswoode in his presidential address before the late meeting of the British Association in Dublin, he may find some analogy between what was written by Mr. Barton and spoken by Mr. Spottiswoode as to the scope of mathematics in the region of illustration. Mr. Barton, however, in his analogies keeps the religious idea upward, but we will let him speak for himself:—"As natural philosophy assists you in defending religion, so will mathematics also. From this science you may answer many of the objections to the mysteries of faith. For if it be required to assent to religious propositions, though we have not always clear ideas of things signified by the terms, this is no more unreasonable than the assent required to all the propositions relating to infinity with which the mathematical science does abound, and which no man conversant in those kinds of studies ever presumed to deny. For infinity is equally incomprehensible to the mind of man, whether it be applied to quantity or to spiritual substance. And therefore the use of this and other incomprehensible terms, which are the foundation of many glorious and useful truths, ought not to be objected to, except by those who, out of fondness to ignorance, error, and vice, are endeavouring to render the road to knowledge impassable."

Mr. Barton was certainly not—unlike some of our modern theologians—afraid of meddling with the mysteries, or rather the truths, of science; and he can, from his own point of view, reconcile revealed religion with mathematical accuracy. We have little doubt,

if geology was popular in his day, Mr. Barton would cheerfully accept the inevitable, and show there was a perfect harmony between Genesis and geology, or the age of the world. But let us hear our author again:—"Does not the science of geometry begin with the trinity of mysteries? For is there any such thing as a point without dimensions, a line without breadth, or a surface without profundity? Does not this science demonstrate that the minutest proportion of matter has every dimension of the greatest, and is therefore still capable of division? And does not this contradict the first definition—A point is that which in magnitude is indivisible even in thought? Yet this is a noble science, and there is no way of coming at truth in it except by means of these suppositions, which are seemingly contrary to truth but absolutely necessary to the weak comprehension of man, who cannot even conceive things by halves; but must be satisfied at first setting out, with the unnatural presumed conception of the third part of the dimensions of quantity at once. From this science also you may reply very justly to all those who refuse their assent to truths upon account of some difficulties, which seems to follow them; which difficulties do not arise from the uncertainty of reason, but very often from a subtlety of mind disposed to embarrass things rather than clear them up. But supposing that they may arise from the things themselves, are there not many examples of the demonstrative kind, from which there follow absurdities that, if the same spirit of dispute had always prevailed in the world, which is now so remarkable, they would have stopped the progress of reasoning even in mathematics?"

Here are some pertinent observations in answer to the men who, a century ago and upwards, were crying out there was nothing new to discover, yet within the present century how many wonderful discoveries and inventions have been made in the fields of science!—"There is nothing more injurious to knowledge than an opinion which prevails with some people that all parts of knowledge are fully cultivated, and that there is scarce anything left for human industry. It is almost shameful even to mention such an opinion, much more so to go about to refute it. It can only be the very narrowminded or extreme idle part of mankind which can entertain so ignorant a sentiment. The most knowing man is generally the most modest, because his acquaintance with some valuable things gives him opportunity of conviction that an infinite number of valuable things are not yet known to him. Are there any avaricious dealers in knowledge like those traders upon pecuniary motives who burn the spices they cannot bring home, thereby to enhance the price of their cargo? It seems there are." The selfish and jealous in this world count by millions, and many who cannot or who have not ability themselves to conquer a difficulty will do their best to prevent their more humble but more talented fellow-men from attempting it.

In Part II. of his book, Mr. Barton, in his remarks upon the foundation of analogical reasoning, writes:—"Analogy, as it is used in numbers or mathematical quantities, means no more than a certain relation of quantity to quantity, either as to equality or excess or content. This is well known to those who are conversant in these studies, and is of excellent use, inasmuch that without it no progress could be made in that kind of knowledge. From thence the word comes to be applied to moral and metaphysical reasoning. For though moral notions are not (and perhaps cannot) be treated with the same precision and exactness as mathematical quantities, yet the respect of moral notion to moral notion may, in many cases, be called analogy. The writers on morality, when they distinguish justice into commutative and distributive, usually say the first must be according to arithmetic analogy or proportion, the latter according to geometric. All exchange of property, when it is honestly made, sup-

poses an exact equality, about which the first kind of justice is conversant; but the appointment of rewards and punishments supposes a consideration of merit and demerit in proportion to which distributive justice is exercised. As the man who is twice as virtuous as another, is to have twice the reward."

There are many curious passages and illustrations of analogical reasoning from Mr. Barton's point of view throughout his book; and whatever may be thought of his arguments, it is clear the author had read pretty deeply, and was in advance of many of his cloth at the period. We learn from some sentences at the end of his book that the author intended to print a list of the subscribers to his work, but for reasons stated the volume was issued without the list. He, however, thanks those who gave their permission to prefix their names as patrons of the publication, "and to wish them that reward for which he wrote and for which they ought to read, and in reply to one sentiment in a more particular manner, to wit, that of a presumed intention of the author to lay this performance before the learned judges appointed to determine of writers of literary performances laid before them whom they should think most worthy of the annual pecuniary premium given by a generous promoter of all arts and sciences, to whom this island is more indebted than to — The reader is at liberty to fill that ellipsis as he pleases. The author thinks anything he can insert, short of what that worthy person deserves. His behaviour has been too noble to be influenced by mere praise, and the reward he seeks too exalted, it is hoped, to be in any degree beholden to the human breath or pen." The generous promoter alluded to was, we opine, "Premium Madden," i.e., the Rev. Samuel Madden, well known in connection with the early years of the Royal Dublin Society.

H.

#### THE PRESIDENT'S ADDRESS AT SOCIAL SCIENCE CONGRESS.

LORD Robert Norton, in opening the business of the twenty-second annual Congress of the National Association for the Promotion of Social Science at Cheltenham, said he had twice presided over their meetings, and, as one of its original members, had a great interest in it. He continued:—

This association followed the birth of the British Association, which it had been proposed to call the Nature-Pokers. Had it been adopted, the members of the younger association would have been driven to the cognate name of Moral-Pokers. A science of social improvement engaging the thoughts of the society itself was a characteristic novelty of modern times. There might be novelty of danger also in too much abstract theory and sublimated philosophy about plain and ordinary duties. The rough practice of our forefathers might actually be dissipated in empiricism if the scientific studies were not tested, in such discussion as they had met for, by practical experience. The leading thread in recent home legislation had been the popularisation of our institutions, and the reviewing them in the interests of the people at large. Our political struggles had ceased from class and personal rivalries to compete in schemes of national benefit. Fortunately the popularisation of the Legislature popularised social legislation without altering the relations of society. Less fortunate countries had taken the name of Republic, retaining in substance the evils of central or oligarchical power, or in the name of equality sinking higher influences to the lowest level. Here the interests of every class had become the united care of all, in a completely national representation of all, not in the way of patronage by the higher nor of demand from the lower, but in common consultation together. It was the nation that spoke, and thought for itself, both on its own domestic concerns, and in foreign demonstration through Parliament. Rapid as the progress of ideas had been causing a general demand for improvement in all that concerned our social well being, no one could fail to see that the progress was still more rapidly advancing. The requirements of life and inventions to meet them increased in geometric ratio. Who could imagine the condition of things thirty years hence, recollecting the revolution the last thirty years had witnessed? And this nation took the lead if not in invention, certainly in the

enterprise of the whole world. Nothing but the careful study of social science could qualify any one of us to take a useful part in such restless progress. The chief advantage of such gatherings as the present was the preventing individual thinkers from attributing general results to particular causes in ignorance of miscellaneous conditions, extraneous influences, and incidental modifications which the experience and the reciprocity of debate must bring to light. Social science, like mechanics, had to deal in all its problems with conflicting forces, qualifying and counteracting each other. There was special danger in this day of widely-distributed social power beyond the basis of education in its predecessors, lest social theories should be accepted *a priori* on hasty assumptions of abstract right and universal principles, with no sufficient study of correcting circumstances nor appreciation of conflicting claims. Burke said boldly that what was abstractedly right must be politically wrong; and popular freedom in an old country might be impatient of the slow and tangled process through which the public opinion of advanced society must mature for the production of any sound legislation. There were five heads under which the discussions of the association were grouped—law, education, health, economy, and art, as applicable to social improvements. They wanted rather—leaving the principles of recognised doctrine to go on towards perfection—to record recent progress, and to consider what they had now in hand. To begin with the law department, the president might say that, not to enter in detail on the many measures and special subjects the association had to do with, there had been two general and comprehensive subjects mainly kept in view—the defects of our tribunals and procedure and the confused state of the Statute Book. The Judicature Act of 1873 and its sequels had done much. They had consolidated courts, and fused law and equity. The union of all the superior courts in one Supreme Court of Judicature, and the appellate jurisdiction ultimately settled, had effected much in economising judicial time and power and in simplifying law proceedings. The programme of the present meeting specially called attention to the codification of the criminal law, with particular reference to the Attorney-General's bill of last session. No greater work had Parliament undertaken of late than this of simplification, condensation, and re-arrangement of our accumulating and ever amending laws. The distinction between felony and misdemeanour is to be abolished. Accessories would be treated on the same footing as the actual offenders of crime. A better apportionment of punishment was proposed by the abolition of minimum sentences, so as to give judges more power to mitigate punishments and to escape from the inequality and apparent injustice which by various successive enactments had become attached to maximum terms. Cumulative punishment was also dealt with, and constructive murders and infant murders. A section of the Law Department of the association was devoted to the subject of repression of crime, and this year there would be special consideration of the proceedings of the Stockholm International Prison Congress. The reformatory view of penal treatment had always been prevalent in these congresses. The entire moral care of the offender did not come within the idea of punishment. The idea of punishment could not embrace the much larger idea of education. The course of education involves the use of punishment incidentally as the corrective of transgression. No modification of prison life could offer healthy education. Separate cells had their mischiefs and dangers—herding together much more. The shorter the punishment the less chance of its necessary bitterness, corrupting its subject still further, and the closer would be attached to the offence the caveat against its repetition. Philosophers, despising vulgar remedies, would prescribe an artificial manipulation of the patient, as if a state of correction apart from natural life could reclaim ordinary criminals on the very occurrence of crime from all their vitiated habits and motives. Solitude in a cell might give space for better inclinations to recover in the minds of men more of the class of the penal philosophers themselves; but a much rougher repellent was more likely to be effective on the rough motives to be generally dealt with, and restoration to natural life and occupation after a strict medicinal treatment, was more likely to be a course of subsequent reformation. We were going far astray alike in attempting the education of adult criminals in prisons and in penal treatment of criminal children during the whole of their childhood in reformatories. It was only on this doubly false idea of prison schools and school prisons that we had shut up in a caged existence and lost to industry so large a portion of the able-bodied population. He agreed with the Home Secretary when he said that we had far too many in prison. Imprisonments were too long to bear any definite

character of terror or example, or to be connected with any particular crime, and too short certainly for the commercial enterprise of a chimerical cure of criminal character. The financial aspect of having an average in England alone of 18,000 prisoners and 10,000 convicts maintained at public expense, with their wives and families in work-houses, was not unworthy of consideration, to say nothing of the 90,000 yearly imprisoned on summary convictions. The long terms of penal servitude which were somewhat recklessly imposed, especially at seasons, were a mistaken imitation of the old sentences to transportation. Depth of crime and length of punishment were not co-ordinate. The deepest crime had the shortest punishment, namely—death. Short imprisonments were said to be ineffective, but experience proved the reverse. For many crimes corporal punishment was proved to be the only one for which the criminal would not come again. The sentiment which would sacrifice effective correction because it was as coarse as the motives it checked, would be laughed at if alleged against the use of a loathsome specific proved effective against a loathsome disease. Some members of the International Congresses accused this country of brutality for the use of the whip in prison, but a little investigation shows that the accusers were themselves resorting to actual torture for the needful maintenance of their prison discipline. In one country they shut up their mutineers in iron cells with a *pique* floor, and in one they made them sit astride an edged iron bar for so many hours a day. The Howard Association has just reported on prisons. He could not agree with them in recommending the cumulation of terms of imprisonment for repeated offences which had been proof against one or two. Nor had he faith in the vicarious conscience and inquisition mask of police surveillance, nor in photographic identification of rogues who had at least cunning enough to give a twitch to their mouths at the moment of photographing, greatly diminishing the value of the criminal portrait gallery. Graduated punishment on good behavior in prison had many dubious elements of value. Good behaviour in prison was the peculiar faculty of the biggest hypocrites. We had two Royal Commissions now sitting on prison discipline and penal servitude. Let him hope that the experience of the "five years' penal servitude" would tell on their philosophy, concluding as it did with something like Solomon's verdict in favour of a short and painful cure. The Prison Act of last year was the necessary outcome of the act of 1865, which had for its chief object uniformity of treatment. Uniformity and amendment of discipline were the main objects of both acts. The president next referred to reformatories. There was at the outset an acknowledged mistake in treating a criminal child as an adult. The child was first corrupted as a prison bird, and then committed penally to a prison school, with the taint of criminality on his own conscience and on his career for the whole of his childhood, as if to defeat the very object of getting him out of criminal associations. This mistaken treatment often ended in charity doing more for these boys on their discharge than honest boys got done for them. Several of his reformatory boys were land and sheep owners in the Colonies. Referring to the subject of health, the president said, after referring to past and recent sanitary legislation, that he thought a great step had been taken from former negligence, he hoped not swerving towards too much officialism. No doubt there was that danger, and, for an instance of its occurrence already, he might mention the appointment of permanent medical officers over the whole kingdom. The problem in arriving at a lucrative application of sewage to land, the only proper application in the difficult case of large towns was how to separate storm water from the sewers, admitting only enough of ordinary rain fall to flush them. On the topic of economy and trade, perhaps, observed the president, the value of trades' unions with their *ultima ratio* of strikes had been lately the prominent discussion. Trades' unions were the workmen's equipoise to masters' meetings. If they were only guided by the same intelligence and order they were not only justified in equity, but they had in themselves much useful influence in the way of independence, self-reliance, and the principle of present sacrifice for distant contingencies. But the pitching of hostile camps of masters and men against each other must, unfortunately, be suggestive rather of force than of contract, and of extraneous agitation than of mutual conference. If arbitration could be made a condition of service in every agreement and dispute *inso facto* referable to an appointed umpire on established principles, such as a fixed relation of wages and profit, the union of those interested on each side of the contract would furnish spokesmen for practical business instead of combatants for mutual onslaught. The philosophy of the Bristol Congress cried for best counsels

instead of vapouring agitation. He believed the depression of trade was temporary, and the like must from time to time recur, as trade overdid itself in one line until it found another. Why was the United States trade just now worse than ours? Why were Italy, France, and Germany crying out for protection? Our national habits of life, no doubt, raised the price of production. Workmen would have high wages, but the extravagance of our capitalists did not diminish. A Minister of Commerce would not aid trade. Had Indian and Chinese famines nothing to do with the depression, or foreign disturbance and chance of war no chilling influences of uncertainty on trade? In conclusion, the president referred briefly to the subject of art, which was a new department in the discussions of the association. It was the ignorance resulting from neglected study that allowed the notion to spring up that beauty was something separate from fitness, something to be added as ornament, and not consisting, as it did, in cultivated adaptation. In this conjunction he quoted Mr. Gladstone, who said—"Beauty is not an accident of things; it pertains to their essence. Reject the false philosophy which asks what does it matter, provided a thing be useful, whether it be beautiful or not? Nothing is more striking than the profuseness with which the Almighty has shed over His works in endless and boundless variety. To this the mind of man still answers from within. Man's nature craves for some sign of what is beautiful. This makes the Spitalfields weaver in the murky districts of London train canaries and bulfinches to sing to him at his work. This fills the windows of the poorest with flowers. This, in a loftier region, taught the early masters of the fine arts to present the objects of our faith in the noblest forms of beauty their minds could conceive."

#### CORRESPONDENCE.

#### ENGLISH AND IRISH DEPARTMENTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—With reference to the article on the re-building of the Eddystone Lighthouse and the general treatment that everything Irish receives from certain departments in England, which appeared in your publication of the 15th ult., I will, with your permission, make a few statements.

Although not being critically conversant with law, I have been always of opinion that many of the aggressions perpetrated by English officials under the supposed authority of acts of Parliament would be found untenable if properly enquired into and firmly resisted. But this is exactly what unpaid boards will not take the trouble of doing, and it is thus that much mischief is effected. Occasionally—but unfortunately too rarely—may a man be met with who will not take it for granted that an act of parliament may mean all that is asserted; of this class was the late Francis Codd—a man in a million who cared little for official impudence, and was always ready to put down interference with a strong hand. But this is not the general character of the members of Dublin boards; those of one in particular appear at all times so impressed with any expression of the Board of Trade that they will obey in the most slavish manner, collectively, any absurdity from that department, although individually and outside the board-room they cannot but despise themselves for their toadying pusillanimity.

If English departments find they can so easily "walk over" the course, who can blame them for trying it on? The merest third-class clerk sent on business from Whitehall is ko-to'd to, entertained at dinner by the board in their steam yacht, invited by the clerks (or officers, as they like to call themselves) to the Gresham or Morrisons', or other genial hostelry, and sent home laughing in their sleeve at poor soft Paddy, who would kick his heels a long time about Westminster before his legs would be permitted a resting-place under the mahogany of any of the departments in that locality, or get an invitation to any neighbouring *café* or "adjacent tap."

Whilst on this subject will you permit me to give you from memory, and so far as my feeble pen will allow, a sketch of the style of a certain clerk well known to his contempo-

raries of Whitehall Gardens as the "acidulated drop"—a regular little vinegar-flask, or, rather, I should say, lemonade bottle, highly charged with gaseous products from impudence, ignorance, and pomposity. In 1870 the Board for the "Preservation of the Irish Pearl Fishery and Conservancy of the Nests of the Burrowing Petrel"—who, as you are aware, do their business gratuitously, and are permitted a steam yacht by their English masters to make a voyage round Ireland once a-year, or twice, if the boilers will stand it—was requested by one of the commissioners, the late Sir J— (a man known and respected during a long life for good nature and thoughtfulness for the comfort of the clerks under him), partly in the exercise of this kindness and partly out of regard for an old officer of customs in Dublin, to invite the aforesaid "acidulated drop" (the officer's nephew) to a trip on the Irish coast. I need not say their invitation was gladly accepted by the aspirant from Whitehall, but certainly not in the spirit it was given. On the contrary, Master Charlie (the acidulated aforesaid) made it an opportunity to "show off," and insisted on airing his importance on all occasions. Any of your readers who have been fortunate enough to receive such an invitation will be aware that every day before luncheon the commissioners hold a meeting in the saloon of the yacht, from which visitors have the good taste to absent themselves. But not so with Master Charlie; he pronounced himself at once by right of office an ex-officio member, said he would act as secretary, and was deeply interested in the working of the department. The members—viz., the worthy knight, a no less worthy alderman, a retired officer of the Navy, a scientific merchant, and a benevolent quaker—all gentlemen, and notorious for hospitality, permitted the "drop" to have his way, and indulge his slightly annoying bombast and ignorant impudence. But this was only the beginning of his "little game." When going ashore to visit birds' nests he should take the seat of honour in the stern, and attempt to steer the boat, although he did not know which end should go first. His cry of "oars in," or, more properly, "hoars hin," always at the wrong moment, was most laughable, and caused the sailors much surprise and a sudden thrusting of tongues into cheeks. He discovered there were a set of flags on board, and at once conceived the happy thought of communicating with the benighted inhabitants of the coast by signal, causing no small bewilderment to the skipper and crew of the yacht, and, indeed, to all concerned—in fact, he was not the man for "Galwey." However, not to spin too long a yarn nor intrude too much on your indulgence, he made himself so objectionable that his interference became all but unbearable, and it was resolved when he was set ashore at Kingstown never to invite such a "cock sparrow" again. But his last act was too good to leave untold; it was as absurd and ignorant as uncalled for, as no Irishman need be told of the elegance of all the appointments of the yacht—of the unrivalled chest of plate or the manner in which the table is spread. But Charlie from Whitehall would exhibit his gratitude in the presentation of a set of the most abominable yellow (German) silver knives and forks; and although the gift was heartily laughed at, it was acknowledged by the secretary in a neat and appropriate letter, which the "acidulated" one is not yet tired of shewing to those who will look at it. In this the commissioners made a great mistake, and again their good nature was misunderstood. They should have sent a special messenger to London to pelt the puppy with his present, as the only fitting treatment of one so dead to the refinements of society. But unfortunately this fellow in the voyage acquired too much knowledge (which he has not failed to warp and wrest as it pleases him), was too much behind the scenes, and carried away with him anything but a grateful recollection of the kindness he received, and which he was incapable of appreciating. Since then his impudence has increased day by day; the old members who might have

succeeded in managing him are all dead; the permanent secretary of his own department is too old and delicate to control him; and although he has never since ventured to put in an appearance in Dublin, he manages occasionally to send a certain Scotch clerk from the Highlands to lay down the law to the unresisting members of the Pearl Fishery and Burrowing Petrel Board.

Now, sir, it is from facts like the foregoing that much that you have described has grown. Impudence and assurance have been met with apathy by the Irish members of Parliament, and with laziness, indifference, and goodnatured supineness by unpaid commissioners. If acts of parliament cannot be tortured or twisted to suit a purpose, an order in council is at once concocted, few persons being aware of what a farce that is, or how one can be framed at any time and to suit any purpose of the Jacks in office. Your description of the manner in which the Mercantile Marine Fund is expended is but too true; but whom have we to thank for it but our gratuitous and amateur coast legislators and so-called Home Rule members?—I am, sir, yours, &c.,

A "STORMY PETREL."

H. M. S. "Hawk."

On the Bulmans, Kinsale.

### WREATHE, WRITHE, OR TWIST.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Having read in your journal some instructive and interesting letters under the heading of "A Query for Handrailers," and having myself as a practical workman put up several staircases including their handrails, I would ask through your columns which is the proper technical term to apply to that part of the rail that winds over the cylinder. In Ireland it is usually, indeed universally, known as the twist, but in England, particularly in London, I believe the staircase hands call the twisted part of the handrail a "wreath." I have also heard the term of "writhe" used. Now I would wish to know which term is the strictly technical and proper one to use?

A YOUNG STAIRCASE HAND.

[In the absence of any reply to the above from our correspondents, we would venture on saying that either term is applicable. The word "twist" has long obtained in this country, and indeed it is used in portions of the sister kingdom, and it is also to be found in some treatises on carpentry and joinery. Between "wreath" and "writhe" it is difficult to say which is the better. "Wreath" means something twisted or curled, and "writhe" also signifies to twist. In a word, all the terms are technically right.—Ed. I. B.]

### THE MACHINERY OF GAS TRADING.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—A statement, "in the public lighting there was no loss from pressure," was made by Mr. J. P. Byrne, T.C., when moving the adoption of a report of the General Purposes Committee at the meeting of the Corporation on the 30th ult.,—although he was after stating that the Inspector of public lighting "informed them that the pressure on the gas in the mains was 30-tenths, three times as much as was necessary to light the city," and which pressure "caused great waste."

That the Corporation was unwilling to be candid on this subject is evidenced by the withdrawal of the usual notice of the amount of pressure on the gas supply, from the published weekly reports on the public lighting. This occurred shortly after the price of gas was reduced to 5s. per thousand, and that the pressure on it was proportionably increased. That the first of Mr. Byrne's statements is not as correct as its decisive style would seem to imply, a comparison of the cost of the public lighting under different pressures at different dates will clearly prove. The Corporation accounts show that the cost of the public lighting in 1871-2 was £6,341 13s. 7d., the pressure on the gas ranging only from 5 to 8-tenths of an inch, and I have reason to know that the cost of the public lighting

in 1875-6 was much over £9,000, the pressure then ranging from 1 in. and 5-tenths to 3 in. As the cost of the gas consumed by 4 ft. burners in the public lamps during both periods was 3s. 11d. per thousand, and as there were not more than 50 additional lamps in 1875-6 amounting to a reported total of 3,400, how can the statement that "in the public lamps there was no loss from pressure," be sustained?

In Liverpool the corporation quarrelled with the gas company because the pressure on the gas to a few of the public lamps was 14-tenths, and caused the indication of an excessive and untrue consumption of gas in them. About the same time (1874) Glasgow was lighted during the year for 3,711 hours (nearly 700 hours longer than Dublin is artificially lighted) with 26-candle gas at 4s. 7d. per thousand, burnt in 7,836 public lamps, at a cost of £8,558 5s. 3d.—about £1 1s. 10d. per lamp; and although the hourly consumption of gas in the Glasgow public lamps was varied, there was none of them but emitted better light than what I have seen given out from many of the Dublin city lamps.

Oct. 29th, 1878.

JAMES KIRBY.

### THE MONUMENTS AGAIN!

IN issues of this journal of recent date we have given place to letters of correspondents expressing in strong language the worse than Vandalistic treatment meted to the memorials of the dead entrusted to the care of the authorities of Christ Church Cathedral. Of these doings, as of others connected with the "restoration," we are quite cognisant. For the benefit of our readers we reprint the following, which appeared in a recent number of the *Broad Arrow*—

"That 'dead honour's monument' is set little store by by many of our ecclesiastical authorities is an old tale. Its latest illustration is to be found in the case of Christ Church, Dublin, which, as our readers are doubtless aware, has been recently restored at the cost of a celebrated Irish distiller. The 'restoration,' which has, as usual, involved a great deal of destruction, has at length come to an end, and the cathedral is now re-opened. A correspondent of the *Athenaeum* who has visited the edifice was surprised to find that the monuments had disappeared. On further inquiry he found they had been relegated to the vaults, as disturbing the uniformity of the walls. Amongst these banished memorials are a monument to Lieutenant-Colonel Wallace, C.B., erected by the 5th Dragoon Guards; another to Henry Matthews, by the officers of the Arctic ship *Enterprise*; a third to Dr. Renny, by the College of Surgeons; and a fourth to Nathaniel Sneyd, 'by public subscription.' This is by no means the worst feature of the case. The architectonic ghoul who has thus desecrated the memorials of the dead have not been content to consign their monuments to absolute darkness and neglect. When a group has been found too large for its new abode, the persons who have had charge of this part of the 'restoration' movement have not scrupled to take it to pieces. Sir Samuel Auchmuty's monument has been treated in this manner, the large central figure having been taken out and removed. After this, it is scarcely necessary to observe that the inscriptions which testify that 'heneath lie' the ashes of those whose names are recorded above, are wholly inaccurate. During the 'restoration,' too, the coffins were collected, piled in a corner, and bricked in, in an indistinguishable heap, so that the tablets studded about the walls are absolutely meaningless. This is the respect paid to the dead entrusted to the care of the authorities of Christ Church, Dublin! The officers of the 5th Dragoon Guards will perhaps regret that they selected the Irish cathedral as a fitting spot for a memorial to their lieutenant-colonel. In his splendid and judicious restoration of Exeter cathedral, Sir Gilbert Scott did not think it requisite to remove Baron Marochetti's monument to the officers and men of the 9th Lancers who fell in India, and which (albeit little in accord with the architecture) still adorns the wall of the north aisle. Do the authorities of the Irish cathedral contemplate selling the newly-acquired wall-room to fresh applicants for leave to erect monuments? The affair is at present sufficiently discreditable to their taste; but if they trade afresh in licensed monuments, the slur will not only be on their taste, but on their honesty."

The Liverpool master builders have notified to their employes a reduction of one penny per hour in the case of joiners, bricklayers, masons, plasterers, and plumbers; and that in the case of masons and plasterers, fifty-five hours would be required for a week's work.

# HOW CAN STREET ARCHITECTURE BE BEST IMPROVED, WITH DUE REGARD TO ECONOMY?\*

THE subject of the improvement of street architecture came before the annual Congress of this Association two years ago, at the meeting held at Liverpool, when the section which undertakes to consider the artistic side of life was inaugurated. It might, perhaps, therefore, seem superfluous to bring it forward again at so short an interval; but I think there is sufficient reason for reopening the subject now, partly in the fact that the local committee of this section expressed special interest in it; partly also that it is one of those subjects on which a great deal must be said, and said very often, before any appreciable effect is produced on the public mind; but more particularly because there is an essential distinction between the point of view from which the question was then considered and that from which I now propose to offer some suggestions,—a distinction which bears especially upon the social side of the subject.

The title of the subject proposed at the Liverpool meeting was "How Best to Secure the Improvement of Street Architecture, especially in Relation to Public Buildings." As a matter of fact, not much was said about public buildings, but this latter half of the sentence indicates the turn which the consideration of architectural improvement in houses almost always does take, that of the laying out and embellishment of the wealthier quarters of the city in the neighbourhood of, and in connection with, its principal edifices. This tendency is the natural legacy of the past history of architecture, which has almost invariably been the plaything of the wealthiest and most powerful castes—religious, political, or social—of the community. We have had the architecture of temples and churches and palaces, of public buildings and of private mansions; we have had recently the street architecture of wealthy town residents and of successful tradesmen, and a very dreadful thing the latter often is in its glaring and costly self-assertion; but we have not in modern England realised any architectural beauty or expression for the many of lesser means who must live in crowded streets, and for whom anything that can be called noble or picturesque architecture seems to have been hitherto an impossibility. We have once had something like an architecture of the people, of which the remains are to be seen in picturesque country cottages in various localities, and in some of the old streets of such towns as Chester; but these are built in a style and in materials incompatible in many ways with the requirements of sanitary science and security from fire. But we are, as far as the present day is concerned, entirely without an architecture for the many; or, rather, our architecture for the many is only the negation of all architecture, the absence of anything which can give any grace or interest to the mass of buildings which the tendency to centralisation in towns renders yearly more formidable, but in regard to which it is at present matter for thankfulness if we can even get the most ordinary conditions of health observed; any attempt to render them beautiful or to diversify the monotony of their endless ranks seems to be regarded as out of the question.

Is it necessary to spend a word in urging that such an attempt is desirable? A few years ago it would not have been so; it would have been conceded on all hands that our average street architecture was grim and depressing in aspect, whatever might be thought as to the possibility of improving it. But it is one of the curious results of the manner in which recent criticism on these subjects has gone on refining, and turning everything inside out, that we seem to have arrived at a paradoxical faith which regards a building as the more artistic the less art there is in it. Having had two or three architectural revivals which have disappointed

the hopes of their votaries, we are now asked to jump to the conclusion that all attempt at refined architectural embellishment is a mistake or a pretence, and that the perfection of architectural design is to do nothing at all. A worship of architectural commonplace has commenced. Great George-street, for instance, that brick avenue which is the paradise of engineers and parliamentary lawyers, was adduced in my hearing the other day by an architect, as something which could not well be improved upon; and superior persons dwelling in Harley-street and other similar half-miles of Georgian brick tell me that nothing they see in modern architecture gives them such pure and lasting pleasure as the varied arrangements of the sash-bars in the fanlights over the street-doors; and I can testify that nothing seems to excite their indignation so much as the substitution of sheets of plate-glass for the old frames. It may be my phlegmatic temperament, but I am ashamed (or at least I obviously ought to be ashamed) to confess that these beauties of Georgian town architecture are thrown away upon me; that I can traverse Great George-street with no quickening of my architectural sympathies, save at the sight of Barry's clock-tower at the end of it; that the fan-lights of Harley-street and Gower-street leave me cold and unmoved. Fully concurring in the view which regards the revival of past architectural styles as essentially a mistake, I fail to see how we are to be bettered by reviving something which is no style at all. Looking at the fact that the Classic and Gothic revivals, whatever the mistakes and abuses inherent in such movements, have produced some really noble buildings and some graceful and picturesque domestic architecture, it is difficult to see that we are to gain anything by coming down to what common bricklayers and joiners could give us, by way of imparting reality to our modern architecture. If this were the only alternative, I would suggest that the old shams are better than the new realities. But I believe we are really in no such unhappy dilemma that we need lay aside all attempt to beautify our streets under the idea that it can only result in affectation. We have our own practical requirements, our own special economical problems, the solution of which in the best manner may furnish, as in other generations, the basis of our own architectural style; and as to the ornament and decoration, Nature, the fountain-head of all decorative art, is as infinite and inexhaustible as ever.

Architecture has always had life and reality put into it when there was a new problem to solve. And here we have such a problem before us. We have to consider how we can, consistently with conditions of economy, bring architectural beauty and interest into those quarters of large towns in which it has hitherto been most neglected and most conspicuously absent, and to the dwellers in which it is of special importance. For the inhabitants of the less wealthy quarters of towns have little opportunity of change of scene in comparison with those who live in wealthier districts. The town furnishes the scenery of their life, and a miserable scenery it mostly is. It is taken as admitted that it brick walls with square holes in them form the only order of architecture which is economically possible for buildings under a certain rental. And seeing how large a proportion numerically of the inhabitants of towns have to live among street-scenery such as this, if we can show that all this might be materially altered,—that beauty and variety, colour and sentiment, might be brought into now dull and lifeless streets, without more expense than is at present bestowed upon miles of blank brick wall,—we should surely be showing the way to an architectural improvement as important in itself and in its influence on the greatest happiness of the greatest number, as the building of town-halls, law-courts, or even cathedrals.

It is, of course, an essential condition of any such attempt to introduce a more artistic element into every-day street architecture, that the change should not involve any mate-

rial addition to the cost of building. As it is, there is considerable difficulty in building houses of the class we are referring to so as to be remunerative in respect of the rents which can be obtained for them; and it is probable that at present any change in our building methods would be more valued by the majority of those concerned, for promising a saving of expense, than for any improvement in architectural effect which it might realise. The idea that town-streets must necessarily be ugly and dull is tacitly accepted, and no one thinks of making a protest against what seems inevitable. If, however, it is once discovered that improvement in this respect is practically possible, we may soon see a very great increase of interest in the subject on the part of tenants and householders; for, after all, very few people are contented with ugliness when they can get anything better, or anything which they think is better.

Now there is no doubt that a certain degree of improvement might be made even in the regulation brick street-front, by the exercise of a little thought. It is not necessary that a quarter of a mile of houses should be built as if all were cut in the same mould, or rather as if they were made by machinery, in lengths of a few miles at a time, and slices cut off and put down where they might be wanted. It is not necessary that all the houses in such a row should have windows of just the same size, so many holes in the wall cut just alike. A little grouping and variation in the size and spacing of the windows would go far to break the oppressive monotony of a long street; and some further variety might be obtained by variations in the character and quality of the brickwork; for instance, by using what is called English bond for the ground storey and the usual Flemish bond for the upper storeys, or by constructing one portion of the heights with bricks of different tone from the rest, so as to get some variation of tint. So far an improvement could be made, a certain degree of character imparted, with hardly an iota of extra expense. Some further relief to the front may be given, at a cost little more than nominal, by the employment of a band of moulded or stamped terra-cotta, or (with a slightly increased but still insignificant expenditure) by a band of moulded or otherwise ornamented brickwork. It is needless to say that there is now, architecturally speaking, every facility for very varied and high-class decorative building in brickwork; but all this is expensive,—in its best form, as expensive as stonework; and, therefore, it cannot enter into our consideration now. A considerable improvement in regard to character as well as constructive truthfulness would be obtained if builders could be persuaded to build the windows and doors in a genuine arch form, even of a small segment, instead of the disagreeable and weak-looking camber arch, which is their great delight; or if a straight window-head is desired (and undoubtedly it is the most convenient form practically) a concrete lintel would give some variety of surface and be more constructively satisfactory than the flat arch. A great deal has often been said about the sky-line of our streets, and how much even the plainest brick streets might be relieved and improved if the houses were roofed with gables fronting to the street; and so they unquestionably would be, but this is a more expensive way of roofing a row of houses, and leads to increased difficulty in regard to carrying off the rainwater. We find, therefore, that although it is possible to make some improvement in the ordinary brick street, and to give some variation of character to it, we can get a very little way towards anything like decorative building,—we are soon hopelessly pulled up at the boundaries of possible expenditure, and if we are to get any further in our endeavour to beautify, we must seek for some material, or method of building, less expensive than brick. Now brick is a cheap material enough in itself; the major part of the expenditure consists in the skilled labour necessary for putting it together properly.

\* By Mr. H. H. Statham. Read at the Social Science Association Congress on the 24th ult.

If we can get a material in which this source of expense is greatly lessened,—in which there is no need for the cutting and fitting and calculating necessary for the proper putting together of even a plain brick wall with square openings in it, even though the said material be no more beautiful or enlivening in itself than brickwork, we may then obtain a margin of funds which can be expended in purely decorative treatment. Now such a material does present itself to us in the shape of concrete building, a method of construction about which a great deal has been said and written during the last few years, but which architects and their clients seem very much averse to take up or to give a fair trial to, though it certainly presents more resources for developing a new architectural effect combined with economy, than anything that is before the public at present.

In the form in which it has hitherto been most used, the principle of concrete building, it need hardly be observed, consists in defining the thickness of the intended wall by a temporary boarding on either side, and filling in the space between with the materials while in a wet state and leaving them to set, when the boarding is moved a stage higher and the next layer of concrete laid: the wall being thus, in fact, cast in a mould, the windows and other openings left by the interception of the material by cross-boarding where required. Of course, it must be admitted at once that such a system is necessarily more stubborn to deal with, in regard to any variety or intricacy in the main architectural design, than is one in which the materials can be put together in almost any way we please and the design easily altered or modified (if desired) as the work proceeds; and this fact must, I think, prevent concrete from ever competing with brick or stone in cases where expense is no object. Such cases, however, form decidedly the minority in ordinary building. It is quite possible, however, that the process of construction may be so modified as almost entirely to remove this drawback, and render concrete building as unhampered in regard to form as any other method. Apart from this question of the process, it appears to me that the results of even plain concrete building may compare with plain stone or brick, at all events with brick, without disadvantage. Concrete being essentially rubble walling on a small scale, that is, with rubble in very small pieces, its natural finish is of course rather rough, but I saw recently some cottages left in this state which looked just as agreeable in tone and texture of surface as ordinary brick walls, perhaps more so; and when the concrete has received the cement face which is its usual finish in the better class of work, the appearance is at all events more cheerful and enlivening for a town street, and less calculated to hold dust and dirt, than a brick wall. The point, however, which we want to arrive at is the degree of saving which can be effected in the shell of the building, and which, as before observed, can be expended upon actual decoration without an increase of cost over the ordinary plain brick front.

Upon this question very various opinions have been expressed, coloured partly, no doubt, by the interest of persons practically concerned in one or another material, partly by the conditions of different localities. Where the materials for concrete are immediately at hand, the concrete is sure to be much the cheapest; where they have to undergo a considerable amount of carriage, or where brick is made close at hand, the relative cost will, of course, be very much modified. On the whole, it may be said that the relative cost in London is a fair test, the locality not favouring either material particularly; and that the statistics of cost there are in favour of concrete there can be no reason for doubt. The other day I was inspecting a very neatly-finished little house in one of the suburbs of London, of which the external walls, including the outer finish of cement, were executed for 4s. 9d. per superficial yard, as against about 10s. per super-

ficial yard for 14-in. brickwork, pointed on the exterior; and the internal cross-walls, left unfinished for plastering, can be executed for 2s. 9d. per yard, as against about 6s. per yard for 9-in. brickwork unpointed. This, you see, is less than half; but a percentage must, no doubt be allowed for the fact that the builder was working for himself in this case. But even allowing him the liberal profit of 20 per cent. (and though contractors are much better off than architects, I do not think they make that as a rule), the cost is considerably under two-thirds of brickwork. But to be quite reasonable in our expectations, we will say two-thirds. Now, if we calculate the difference upon a small street-house of the middle class of dwelling, say about twelve yards above the ground by five yards and a-half frontage by eleven yards in depth, with the average amount of internal cross walls: taking the saving on the front and back walls at 3s. 2d. per superficial yard, and that on the party-walls and cross-walls at 2s. per yard, including cellars; allowing also for a saving of about 6d. per yard over the whole interior (except cellars), by the dispensing with one coat of plaster, we get in round numbers a saving of about £100 per house to make ducks and drakes with in the way of decoration. And now the question is, what to do with it,—how best to employ it?

It is easiest, in the first place, perhaps, to settle what not to do. The builders and the companies who are interested in promoting concrete building have taken that trouble off our hands; for if anything could render the system odious in the eyes of all people of artistic feeling, it would be the sight of the horrible things which these gentlemen erect as “handsome houses,” and of which they show you photographs which they seem to regard as sufficient at once to convert you to concrete building. If they knew their own interests they would keep the photographs of their neat and desirable residences carefully out of sight, for fear of creating a pardonable scare in regard to the new method of building. The air of vulgar respectability, if one may say so, which characterises them is partly due, no doubt, to the fact that they are usually the work of persons untrained in refinements of architectural detail and expression; either of the builder's own clerk, or of the kind of architect (or architect) who is not unfrequently kept by a builder. With one exception, to be mentioned just now, I believe no architect of genius has allied himself with concrete in any shape, as yet; and though we are often told there is no architecture now, and that it is all imitation, yet there is a sort of distinction between the work of an educated and of an uneducated imitator. But the cause of failure really lies deeper than that; it lies in the want of perception that a special material, differing in character from those hitherto used, requires a special treatment. The only idea of the ordinary designer of a concrete house is to make it like a stone house, and to employ the usual features which are considered proper to respectable stone houses: pilasters, moulded capitals, panels, brackets, key-stones, consoles, and all the rest of it; to treat it as if it were built up in pieces like stone, and to affix upon the surface of the walls imitations of stone detail. Nothing that is real—nothing that appeals to a genuine artistic sense, can be done in that way. The first point is to recognise the real nature of the material and the method of treatment to which it will lend itself. A concrete house on the usual method of construction is essentially monolithic. It is true that it is necessarily cast in stages, and I have thought that in the case of cottages built as cheaply as possible, and left rough, an agreeable effect might be produced by varying the materials so as to get a slightly varied tone in the alternate layers. But in a concrete house as finished for the better class of work, even this slight indication of horizontal layers disappears in the finishing, and the building becomes a uniform surface. Instead, therefore, of trying to make it a

masonic design, and planting on the cement projections to be fashioned into the likeness of masonic detail, why not recognise the material for what it really is, namely, an admirable “vehicle” (to borrow a painter's expression) for surface decoration.

In considering what we can afford to do in this way, it must be remembered that in a street-house we have, architecturally, only the front and back walls to consider, and practically it comes, in most situations, chiefly to the front wall; for, though it is certainly a mistake, and under some circumstances even a vulgarity, to neglect entirely the decoration of a house and make a great show in front, on the other hand it is unquestionably part of the amenity of architecture, regarded in a social point of view, to turn its best face to the public; in other words, to develop its best beauties where the most people can see and enjoy them, just as we ourselves, or the better half of us at any rate, endeavour to put on our best appearance when we go to a public entertainment. Now, looking at it in this light, and concentrating our efforts on the street-front, the amount I have supposed to be saved on the shell of the house would enable us to cover half the front with original decorative design in such a material as Rust's mosaic, a material furnishing not only an indestructible design, but giving colour and texture of a very rich and harmonious description; or it would enable us to decorate the front with original design in *sggraffito*, a process which, though not affording colour, gives variety of tone, and has the merit of combining remarkably well, in regard to material and appearance, with concrete. Many more suggestions might be made for giving a varied decoration to the surface, some of them at much less expense than the processes just named. Coloured tile designs may be incorporated in the face of the walls; and terra-cotta, such as Doulton's, with its beautiful tones and rich surfaces, may be used to give an almost jewelled effect of colour and surface of the most permanent description. But stress is laid here upon the possibility of introducing such materials as mosaic and *sggraffito*, because they bring us clear of the system of mechanically-repeated ornament, and presuppose a design which varies with the individuality or the feeling of the designer in each case, and in which no saving is effected by mechanical reproduction and multiplication of the design.

(To be continued.)

#### MORE RED TAPE!!

Mr. Armstrong, of Wexford, has got the contract from the Commissioners of Irish Lights for raising and removing the hull of the barque “Wolverine,” wrecked on the 17th March, 1867, in Crookhaven Harbour, County Cork, and permitted by the Board of Trade to lie in the only harbour of refuge from the Shannon to Kinsale for more than eleven years, to the imminent danger of all vessels seeking shelter there. Will the members of Parliament for the County Cork take note of this!

#### CIVIL ENGINEERS AND DOUBLE COMMISSIONS.

We have been requested to give publicity to the following letter:—

SIR,—The council of the Institution of Civil Engineers have been informed that a statement has been made to the Clyde Trustees, that civil engineers are in the habit of receiving double commissions—that is to say, from their employers, and from the contractors engaged to do the work. I am requested by the council to give the most unqualified contradiction to this statement; and to add that, in the opinion of the council, such a practice would be distinctly dishonest, and would constitute a disqualification for membership of this Institution. JAMES FORREST, Secretary.

# SOCIAL SCIENCE CONGRESS PROCEEDINGS.

THE twenty-second Congress of the National Association for the Promotion of Social Science opened at Cheltenham on the 23rd ult. The inaugural meeting, which took place in the Assembly Rooms, was well attended. Mr. G. W. Hastings, the President of the Council, introduced the President of the present Congress, Lord Norton, remarking that his lordship was one of the originators of the Society.

The President in the course of his address (portion of which we print on another page) touched upon a variety of questions.

On Thursday, the 24th, the five sections of the Congress began their sittings. The inaugural address in the Trade Department was delivered by Professor Bonamy Price in the Rotundo. He began by pointing out the great services rendered to mankind by political economy, and showed how, in the removal of restrictions, privileges, guilds, and the promotion of free trade, it had led to the expansion of the commerce of the world. Political economy showed that capitalists and workmen were the joint producers of wealth, and that the one class could not exist without the other. Unfortunately its benefits had been very much kept back, owing to its teachers not recognising the fact that they must employ the language of the market and the workshop in order to be thoroughly understood by the people. It had also fallen into discredit by economists attempting to give a scientific form to its teaching. Political economy was not a science, but a body of systematic knowledge gathered from the study of common processes which had been practised all down the history of the human race. The function of political economy was the examination of the production and distribution of wealth, and the removal of a cloud of errors, chiefly theoretical, which have grown up with these.

The Public Health Department was presided over by Mr. W. H. Michael, Q.C. The special question put down was, "The Importance of Complete Disinfection, and the Best Means of Providing for it by Sanitary Authorities." The first paper was read by Dr. Wm. Hardwick, who proposed that the sanitary authorities ought to procure returns by which a knowledge of the state and origin of epidemics or malaria might be ensured by a compulsory notice and registration, and that the authorities should provide a public disinfecting establishment, under the management of the sanitary staff of the town or district. Dr. Francis Bond dealt with the legislative measures needful to arrest the spread of infectious disease. He recommended the compulsory notification of any case of infectious disease to the sanitary authority power, on the part of the sanitary inspector to enforce isolation of the infected person, power on the part of the householder to provide the means of isolation at the cost of the sanitary authority whenever the latter make default in so doing, a provision that the admission to any infectious hospital under the management of a sanitary authority shall be absolutely free, and power to the Local Government Board to unite neighbouring authorities for the purpose of providing hospital accommodation. Mr. Edwin Chadwick considered that the Continental system of trying to stamp out disease in its infantile stages, rather than take means to arrest it when it had got established, was the best. Mr. J. Lloyd Roberts, of Denbigh, contributed a paper discussing "The Availability of the Different Sources of Water Supply for Rural Districts." He concluded from the cited opinions of the Commissioners that natural springs were too few, and deep wells too costly, uncertain and troublesome. If all the objections to well waters, river waters, and the rainfall were to remain tenable indefinitely a large section of the community must be deprived of water. The least objectionable on the score of pollution was rain water, and, with a little care, there

was no reason why it should not be made of nearly equal purity with spring water. By storing it a sufficient supply ought to be obtained anywhere. To do this for separate dwellings was merely to do on a small scale what was done for large cities, for the lakes were only reservoirs, fed by the rainfall. The author went into detailed calculations that the average rainfall on cottage roofs would supply the average consumption, and that the consumption would not increase beyond the probabilities of supply. The rainfall did not contain the necessary mineral constituents of water, which ought to be added artificially, or by having the source supplemented by water from pure land springs.

In the Art Section, which was one of the most popular, presided over by Mr. T. Gambier Parry, Mr. Heathcoat Statham read an excellent paper on "The Best Means of Improving Street Architecture, with Due Regard to Economy," a portion of which will be found on another page. Mr. G. Skipwith read a paper on "Some Neglected Principles of Decorative Art."

On Friday, in the Education Department, the Hon. G. Broderick, the President thereof, opened with an interesting address, which dealt with the progress of National Education in England during the last thirty years. After dealing somewhat exhaustively with the subject in its different aspects, and advocating the appointment of a Minister of Education, he concluded by saying that it was no secret that the Privy Council was at that moment considering a scheme for the extension of University Education. Mr. G. Fitch followed Professor Ward with proposals for a new university in the North of England. Mr. J. D. Heaton, M.D., a member of the Yorkshire College, also discussed the question.

In the Health Department the special question for consideration was "The Better Regulation of House Building generally, and the Best Mode of Improving the Sanitary Condition of existing Houses." There were two papers read on this subject; by Mr. Alfred Hill, medical officer for Birmingham, and W. F. A. Waller. Mr. Henry Robinson, C.B., read a paper on "Vestry Neglect on Sanitary Matters." He suggested that every householder, before taking a house, should require a certificate as to its sanitary efficiency, and should regard this as of equal importance to one of its structural safety.

In the Economy and Trade Section, the special question was "What are the Causes of the Present Depression and Stagnant Condition of Industrial Enterprise, and what are the Best Remedies." Professor Bonamy Price presided; and Mr. David Chadwick, M.P., in the course of his subject glanced at the general position of the revenue, expenditure, and trade of the nation. The imports and exports of the United Kingdom during the last fifteen years showed, he said, that there had been an increase in the value of imports of 145½ millions sterling, an increase in the exports of British produce in ten years, from 1863 to 1874, of 108½ millions sterling, and a decrease in the exports of British produce in the four years, from 1873 to 1876, of 56½ millions sterling, whilst in the same four years the value of imports had increased no less than 23 millions sterling. Mr. E. C. Carleton subsequently read a paper on "The Training of Pauper Children." He was in favour of the establishment of large district schools, which, as he said, may form a ladder from the gutter to the universities. Mr. E. J. Watherston followed with a disquisition upon the industrial employment of women in France compared with England. In the United Kingdom the excess of females over males was nearly a million. This disproportion between the sexes was constantly increasing, and with the increase there came naturally an ever-rising difficulty in the employment of female labour. He advocated the establishment of special training schools for certain trades, and a union of the managers of such schools with manufacturers and others wishing to employ female hands.

A similar system set on foot in France had been productive of the most beneficial results.

In the Art Department, in the absence of the President, Mr. Gambier Parry, Mr. G. Godwin, F.R.S., took the chair, and Mr. John Hullah, whose name has been connected with the popularising of music for nearly half a century, read a paper on "How a Sound Knowledge of Music can be best and generally disseminated." He warmly advocated the necessity of beginning to learn music very early in life, and stated as the result of his long experience that it is quite exceptional for a person to become a musician who has not commenced the study of music when a child. Mr. Hullah maintains that in regard to musical notation there is no necessity for disturbing ancient landmarks, and that the old system possesses the advantages of being the clearest, the most complete, the most easily written and easily read that had as yet been invented. The President, Mr. George Godwin, read the second paper on the "Project of a National Theatre," or the desirability of obtaining a theatre not wholly controlled by the prevailing popular taste.

On Saturday, all the sections were at work before noon. In the Health Department Mr. Michael, Q.C., delivered the sectional address. He said—Sanitary science within the present century had lengthened the duration of life, that every effort to provide better house accommodation, to drain dwellings, to bring fresh air to a community, and copious supplies of pure water, placed a mark on a community which might be read as though plainly stamped on their countenances. Better, taller, and stronger forms, brighter faces, and clearer complexions were the tokens of this change. Pure water was a necessary of life, but it sank into insignificance as compared with pure air. What was most urgently wanted was the appointment of a commission to inquire into and report to the Government upon the boundaries and conditions of the various districts, and to recommend some readjustment which would allow the whole country, when sub-divided according to local exigencies and position, to be governed by uniform sanitary laws. He took a hopeful view of the future, and concluded by asserting that an improved standard of national health would tend to higher and better intellectual and moral development, for it was useless to cultivate the brain while the lungs were neglected.

In the Education Department Professor Sylvanus P. Thomson, of the University College, Bristol, read a paper on the inferiority of training of the majority of the skilled artisans of Great Britain compared with those of Germany, France, and the United States, in those qualifications which imply a broad grasp of scientific principles. Abroad he said there existed technical schools to teach workmen much that in England they were left to pick up haphazard.

In the Health Department, presided over by Mr. G. Broderick, Mr. J. Marshall read a paper advocating the circular system in the construction of hospital wards. Dr. G. W. Child contributed an account of the working of the Public Health Acts, 1865, and he pointed out how they had failed to attain the objects of the five conditions of healthy living, namely, healthy dwellings, proper water supply, effectual drainage, protection against importation or spread of epidemic disease, and the supervision and removal of nuisances. A paper on "Disinfection, its Dangers and its Limits," was submitted by Professor Wanklyn and Mr. W. J. Cooper.

In the section devoted to Jurisprudence and the Amendment of the Law, the Rev. Dr. Vines read a paper on the International Prison Congress of Stockholm. The results arrived at by the Congress were in favour of a reformatory prison treatment, conditional liberation, a less frequent use of short punishments for habitual criminals, cumulative sentences in cases of repeated transgression, and a more general and vigorous use of the institutions recognised as complementary to prison discipline, such as aid

societies, houses of industry, agricultural colonies, &c.

In the Art Department before a large audience, Mr. P. H. Rathbone, of Liverpool, read a paper on "The Undraped Figure in Art."

On Monday, the 28th, the sectional address in the Jurisprudence Department was delivered by Mr. Commissioner Miller, Q.C. He said the time had not yet come for anything like a successful attempt at the codification of the law; indeed he was doubtful whether it ever can come until the actual state of the statute law had been accurately ascertained. He suggested there should be a standing committee responsible for the language of all acts of parliament. This would afford a saving of both time and labour, which only those who have carefully followed the progress of a hotly-contested bill in the House of Commons could fully appreciate.

In the Health Department, under the presidency of Mr. Michael, Q.C., Lord Norton read a paper on "The Utilisation of Town Sewage." The great difficulty with the sewage of the large towns was to distribute their refuse over sufficient space. The first acts of parliament committed the mistake of inviting towns to take up loans for making the discharge of sewage into rivers or the sea, and his own case against Birmingham now formed the leading precedent for an injunction against such a nuisance. Application to land was the true and only right disposal of sewage. In that way it can be rendered enormously profitable, and perfectly free from creating a nuisance. Last year the sewage farm of Sattley, in the hands of the Corporation of Birmingham, produced seventy-eight bushels per acre of black oats besides two tons of straw, sixty tons per acre of mangold, four tons of hay, besides feeding; off the same land forty tons of rye grass per acre in five crops, besides grazing, mowing, and two and three-quarter gallons of milk daily from cows. On this Sattley Farm the sewage of Birmingham is passed out in sluices, and dug in and in from time to time, so as to saturate perpetually turned up soil. Yet with a population of nearly half a million Birmingham only required a sewage farm of about two or three hundred acres. Dr. Child, Health Officer for Oxfordshire, exposed the evils of over-crowding which existing laws are powerless to correct, and asked whether, before encouraging "a spirited foreign policy" and going forth to redress human wrongs in Turkey, Bulgaria, and Afghanistan, it would not be better to devote the cost to the comfortable housing of the necessitous classes of our own country? Such an expenditure would be better than to lavish the same sums upon gigantic and unremunerative armaments.

In the Economy and Trade Section, Mr. Randell read a paper on "What Means can best be Adopted to Enable and Induce the Wage-Earning Classes to Secure for themselves a due Provision for Sickness and Old Age." With regard to existing friendly societies, he stated that the returns sent into the chief registrar showed that the assets of a large number of them were ridiculously inadequate to meet the claims maturing against them, and that many such societies could not be relied upon, so that in these cases the societies must be drifting into insolvency. He urged that a national system of co-operative assurance should be organised, to include all varieties of age, and tabled to meet the requirements of the highest as well as the lowest of the wage-earning classes—say from 1s. to 10s. per day. The tables of payment should be such as to insure the society being self-supporting; and, beyond this, the guarantee should be national, the machinery of the Post Office being used as in the case of the Post Office Savings Bank.

On Tuesday, in the Art Department, Mr. Gambier Parry delivered a sectional address on the "Relation of Fine Arts to Social Science." This paper we hope to reproduce in our next issue.

In the Jurisprudence Department, Mr. Bushby, one of the Metropolitan Police

Magistrates, discussed the question whether the Summary Jurisdiction of Magistrates should be further extended. He pointed out that the question had been in many important particulars affirmed by the Summary Jurisdiction Bill, and he showed the absolute necessity for further legislation by instancing the mode in which the commonest kinds of theft are now dealt with. One man, he said, steals from a stall, another picks a pocket, a third purloins money paid him for his master, a fourth robs his master's till. Suppose the value taken in each case does not exceed 5s., and that put on their trial the men severally plead not guilty, a non-legal person would probably think that there was little to choose between these worthies, that, like King Arthur's serving men, "All of them were thieves," and that any magistrate fit to try either might safely deal with the whole batch. A lawyer, however, would inform him that the four cases represent as many distinct classes of crime, two of which only are triable at petty sessions; while the others must be sent, at whatever cost of time and money, to a higher tribunal. Mr. Bushby approved generally of the bill introduced last session.

In the Health Section, Miss Vernon read a paper on "Public Parks and Recreation Grounds." Bradford, she said, headed the list of towns in the country in the provision of parks, having five, bought at a cost of £187,000. In London some of the disused square gardens might, after the example of the squares in Paris and New York, be turned into delightful recreation grounds. A paper from Dr. Norman Kerr on "The Mortality from Intemperance," attracted some attention. He has been able to trace no reliable authority for the traditional number of 60,000 drunkards said to die in Great Britain every year; but he showed from records of his own practice that, assuming there were 16,000 doctors practising whose experience was the same as his own, the mortality from drunkenness would be over 120,000 annually.

On Wednesday morning, the 30th, a general meeting was held under the presidency of Lord Norton, when Mr. G. W. Hastings delivered the usual address preparatory to the close of the proceedings of the Congress.

At the concluding meeting there was a very large gathering. A joint report from the secretaries was read, from which it appeared that the meeting had been a very successful one. The council have not fixed the place or date of next meeting. Arrangements were made for an excursion to Worcester yesterday.

## THE UNSANITARY SURROUNDINGS OF DUBLIN HOSPITALS.

SOME of our Dublin hospitals are certainly not in sanitary localities, and the Richmond Hospital block of buildings are hedged around by premises which need constant sanitary inspection. Lord Powerscourt writes to the effect that in the twentieth report of the Board of Superintendence, which will shortly be issued, that some remarks will appear upon the state of the Richmond Hospital, one of the group of buildings embracing the old House of Industry Hospitals in North Brunswick-street. His lordship goes on to observe "that the state of this hospital as regards its buildings and *entourage* has repeatedly been brought to the attention of the present and late Lords Lieutenant; but I believe that there is no power vested in the council by which any grant could be allocated to such a purpose as I suggest. The building itself was never intended for an hospital when it was erected, and is very old and unfitted for its purpose, and the wards and passages are very small and low and inconvenient, and the means of ventilation are very defective, and the general arrangements are bad, although as good as can be made in such a house. But an even worse evil than this is the fact that the hospital is abutted on at the side next Brunswick-street by a

series of dairy yards and manure heaps, actually touching its walls, or nearly so, and the effluvia from this source is most offensive. I suppose that the land occupied by this description of property cannot be very valuable, although I do not know what the nature of the tenure may be; but it seems to me that it would be a most benevolent object for persons interested in the city if a subscription list was opened, perhaps by the Lord Mayor, for the purpose of buying up the land, and clearing away the offensive and insanitary surroundings, and then rebuild the hospital. At all events, the matter is one, which I think, would be well worth inquiring into, to see if something could not be done to remedy a state of things which is a blot upon civilisation."

Under some circumstances it might be advisable to advocate the removal of one or more of our hospitals further afield, and away from crowded localities. Hospitals for the treatment of accidents or for surgical operations will always need to be in the city, but those intended as fever or epidemic diseases would be better placed by being in the suburbs. When Swift's, Stevens', and the Whitworth Hospitals, and one or two more were first erected they were a good distance from the city proper, but the growth of population (which in other words means the extension of the metropolis) is gradually leading to their being hemmed around by business premises and yards. It is absolutely necessary that all our city hospitals should have ample open space around them, and that their precincts, streets, and yards, should be constantly cleansed and the provisions of the Public Health Acts enforced.

## TO CORRESPONDENTS.

A BUILDING WORKMAN.—Will our correspondent try to induce others of his brethren to adopt his suggestion or our own, as already made.

BOARD OF WORKS ADMINISTRATION.—Correspondents are informed that the articles which are appearing on the above subject are strictly impartial, and justice consistent with the facts is being rendered to all concerned.

CELT.—We do not discuss political or religious questions in these columns.

PROVINCIAL ARCHITECT.—We believe the gentleman alluded to has not yet ceased his connection with the society named, at least no public announcement of such resignation has appeared, to our knowledge.

JACK TAR.—You can get the work you mention in any book-sellers. Mr. John S. Sloane, of this city, has in preparation a most excellent work on the subject, and every other connected with the Mercantile Marine Act of 1854, and the anomalies to which that legislative absurdity has since given rise, especially in the Harbour Department of the Board of Trade.

RECEIVABLES.—W. F. S. (London)—W. R. L.—J. C.—M. D.—A Surveyor—A. S. (London)—C. E. (Cork)—T. C.—W. B., &c.

## HOME AND FOREIGN NOTES.

THE SANITARY ACT.—Mr. John Waldron has been appointed inspector to the Union of Abbeyleix under the new Sanitary Act, at a salary of £10 per annum. The L.G.B. are of opinion that, considering the onerous duties to be performed, the above salary is quite inadequate.

ART EXHIBITION, NEWCASTLE-ON-TYNE.—The exhibition of the newly-formed Arts Association, Newcastle-on-Tyne, which has now been open for a month past, is considered so far a success, both in the number of visitors and the sales of the works exhibited. Among the latter, it is curious to find, the most important pictures sold are by French artists.

A SCOTCH LAKE-DWELLING.—A lake-dwelling has been discovered on the farm of Lochlea, Ayrshire, Scotland. This farm is situate near Mauchline, and is indissolubly associated with the name of Robert Burns, his father having occupied it in Burns's days. The discovery was made by a party of workmen who were engaged in some draining operations. As soon as it became known, Mr. Turner, acting for the Duke of Portland, to whom the land belongs, took measures to have the various articles preserved. The dwelling, like others of the same class, has been built on piles of oak driven into the ground, and which are but little decayed. Among the relics found are several "querns" (ancient grinding mills), hammers, deer horns, bones and teeth of animals, and a canoe 12 ft. by 2½ ft., hollowed out of the solid tree. There has also been found a piece of pottery which antiquaries declare to be of the Roman period, and a number of other relics.

**DEATH OF AN ENGLISH ANTIQUARY.**—The Rev. Canon Rames, F.S.A., died at Scarborough on the 17th ult., in his seventy-fourth year. He was elected fellow of the Society of Antiquaries in 1843, and edited "Bishop Gastrell's Notitia Cestriensis," in 1845 to 1850; "The Stanley Papers"; "Nicholas Apheton's Journal"; "Memoirs of James, seventh Earl of Derby"; "History of the Lancashire Chautries," and other kindred works.

**THE LATE MR. T. A. BRITTON.**—The deceased gentleman, who died suddenly on the 16th ult., for many years filled the office of surveyor to the Metropolitan Board of Works, but had retired on a pension a few years back, on account of ill health. Mr. Britton was an associate of the Institute of Architects, and the author of an excellent treatise published in 1875 by Messrs. Spottiswoode, and reviewed in these pages, entitled a "Treatise on Dry-Rot in Timber." He obtained an Institute silver medal for an essay on "Timber Trees."

**DEATH OF A SCOTCH ANTIQUARY.**—On the 19th ult., at Edinburgh, died Dr. David Laing, F.S.A. Scot., in his eighty-sixth year. Upwards of half a century ago he was a partner in the firm of William and David Laing, booksellers, South Bridge. About two years previously, or in 1824, he was elected a fellow of the Scottish Society of Antiquaries. He was a treasurer to the society for fifteen and acted as secretary for two years, besides being a vice-president for some terms, and acting for upwards of twenty years as foreign secretary. His papers on a variety of subjects connected with archaeology and antiquities will, we believe, be found in all the volumes of the society's Transactions. He not only edited the most of the Transactions, but executed the major part of the redacting of the four volumes of the "Archæologia Scotica," comprising the society's proceedings from 1780 to 1852, when the new series of Transactions began.

**AWARDS TO ARCHITECTS.**—The following are the names of the English architects who have had medals and honours awarded to them at the Paris Exhibition:—*Third Section, Class 4.—Drawing and Architectural Models.*—E. M. Barry, R.A., medal of honour; T. G. Jackson, honourable mention; Horace Jones, bronze medal; J. L. Pearson, A.R.A., gold medal; J. P. Seddon, bronze medal; Norman Shaw, A.R.A., silver medal; G. E. Street, R.A., gold medal; A. Waterhouse, Rappel of medal of honour; T. H. Wyatt, silver medal.

**WOOD WALL PAPER.**—The use of wood for a wall paper is not a novelty; but a great improvement in its preparation has been made by Mr. C. W. Spurr, of Boston, U.S. The wood is cut to the thickness of paper, and by a peculiar process stuck on to the paper, which serves as a protection against the influence of the walls on the graining and colour of the wood. The delicacy of the machinery employed in cutting so thin a veneer may be gathered from the fact that 200 leaves are cut out of an inch of white maple wood, and 125 out of wood with very open grain, such as oak and nut.

**NEW RAILWAY SLEEPER.**—The North-Eastern Railway Company are about to test a wrought-iron sleeper and chair-clip, patented by Mr. Charles Wood. The sleeper consists of an inverted trough, and through square holes punched in this trough a clip chair of rolled wrought iron or cast steel is slipped into the under side. The clip chair is of horseshoe shape, one side forming a hook about 2½ in. wide, and the other holding one jaw of a railway chair for taking a wooden railway key. This wooden key fastens the rail tightly upon the sleeper while serving to hold the clip chair in its place. Mr. Wood claims for his invention superiority over any other method in vogue, on the ground that there are no bolts, nuts, washers, &c.

Messrs. Longmans will very soon issue the second part of the "Facsimiles of the National Manuscripts of Ireland," selected and edited, under the direction of the Master of the Rolls in Ireland, by John T. Gilbert, F.S.A., late Secretary of the Public Record Office of Ireland, and photolithographed, by command of Her Majesty, by Major-General Sir Henry James, late Director-General of the Ordnance Survey. The ninety specimens in this part, printed in colours, illustrate the period from A.D. 1100 to 1299. They include the Corpus Christi Irish Missal and Gospels; Ancient Psalters; Confession of St. Patrick; the Book of Leinster and "Saltair na Rann"; the Topography of Ireland by Cambrensis, with coloured illustrations; Jocelin's Life of St. Patrick; a Charter of "Strongbow," with his seal; letters, rolls, accounts, chartularies, Gaelic poems and histories; Annals of Innisfallen; the "Black Book of Christ Church," Dublin; charters from Reginald Talbot of Malahide, &c. Of Part I. of these "Facsimiles" the entire impression is, we are informed, nearly exhausted.

**ROYAL HIBERNIAN ACADEMY OF ARTS.**—At the annual meeting held on Friday, the 18th ult., the following were elected for the year 1878-9:—President, T. A. Jones; Secretary, B. C. Watkins; Treasurer, Thomas Farrell; Keeper and Librarian, P. Vincent Duffy; Visitor Day Painting School, A. Burke; Visitors Living Model School, P. V. Duffy, T. Farrell, A. Grey, Wm. Osborne; Professor of Painting, Augustus Burke; Professor of Sculpture, Joseph R. Kirk; Professor of Architecture, J. J. McCarthy; Professor of Anatomy, W. Thornley Stoker, M.D.; Professor of History, W. J. Fitzpatrick, J. P.; Professor of Antiquities, J. T. Gilbert, L.L.D.; Auditors, A. J. Mayne and Thomas Drew; Trustees, T. A. Jones, B. C. Watkins, W. Osborne; Council, James H. Owen, M.A., Thomas Drew, H. E. Doyle, P. V. Duffy, T. N. Drane, A. Burke.

**Re GAS AND ELECTRIC LIGHTS.**—On this subject Mr. Arthur Regg, London, writes as follows:—Permit me to point out what appears to be an erroneous mode of approaching a consideration of the probable future of these two lights. Nor is it peculiar to these. Men seem so accustomed to estimate relative merit upon a money scale only, that even the first germ of a novelty is met with the inquiry—What does it cost? We all know that there are many articles of daily consumption which, when first produced, cost nearly the same weight in gold as they now do in copper. Lace, for instance, which can be bought for one penny a foot, has been as high as a guinea. I have a box of lucifer matches which cost eighteen pence, and now three such boxes can be bought for one penny. Now, with regard to the cost of electric illumination, once let it be shown how to divide the intense electric light we have into any number of small lights, then scientific ingenuity must employ itself in devising means for a more perfect storage of electricity than those we at present possess; and I have no doubt that both are quite practicable, and will be done. It may cost hundreds or thousands of pounds; this, however, is too small an element to enter into the future of electric lighting, for a view I have frequently expressed during the past forty years will assuredly be realised, viz., the waterfalls of our English rivers and the tidal wave on our coasts can be converted into electricity, and stored, and distributed so as to supply much of, if not quite all, the heat, and light, and power required in England. Thus, given by nature a costless source, it becomes a simply mechanical question how to utilise it, if, when utilised, it can be beneficially employed.

**PERMANENT BUILDING SOCIETIES.**—In a terminating society the members resolve to subscribe a fixed monthly payment till each man's share has, through subscription, interest, &c., accumulated to some amount agreed upon, which is usually £120. As soon as sufficient money has been received to permit of a share being advanced, it is commonly disposed of by way of loan to that member who is willing to pay the highest premium for it. The premiums thus paid go to augment the common fund; and as soon as sufficient money has been realised to pay the total of all the shares, the society comes to an end. In a permanent society the members pay a certain monthly subscription for such a number of years as may be calculated to be sufficient to realise the value of the share, at the end of which time the member receives the stipulated amount, and his connection with the society ceases; but the society itself goes on continuously, being constantly joined by new members, as the old ones leave it. In the earlier days of the building society movement, the terminating system was that usually adopted; but experience has now shown that the permanent is open to fewer objections, and it has during recent years been the one most in favour. In a terminating society, it is necessary for any member who joins after its commencement to pay an entrance fee equal to the amount of back subscriptions. This is frequently a difficulty with intending members, who have only a small monthly sum at command, and does not occur in permanent societies, which can be joined at any time. In the terminating society the period over which subscriptions will have to be extended can never be accurately fixed, as the realisation of the full amount of the shares must depend on various contingencies; but in a permanent society it can be settled definitely. In the terminating societies, during the last years of their existence, it is often difficult to find borrowers, as the loans are then only for a short time, and the rate of periodical repayment is consequently high, whilst in the permanent it is generally easy to find investments. It is also more easy to withdraw subscriptions, or to redeem a mortgage, in the latter. The working expenses can also be more equally distributed, and the management, being established, and not merely a temporary one, will generally be better.—*Cassell's Household Guide.*

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress in town or country. No charge is made for insertion.

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Illustration.

NEW PREMISES, LOMBARD-STREET, BELFAST.

Contents.

|  | Page |
|--|------|
| THE MUD CABIN IN HISTORY AND ARCHITECTURE ..   | 323  |
| Irish Board of Works Administration .. ..  | 324  |
| Correspondence—Municipal Elections and Municipal Reform; Scroll or Newel .. ..   | 325  |
| Kingstown Town Hall .. ..  | 326  |
| "The Men of the Time" .. ..  | 326  |
| The Municipal Apotheosis .. ..   | 326  |
| On the Desirability of Obtaining a National Theatre not wholly controlled by the predominant taste of the Public .. .. | 327  |
| New Premises, Lombard-street, Belfast .. ..  | 328  |
| Colour-Blindness—Ships' Lights .. ..   | 328  |
| How can Street Architecture be best Improved, with due regard to Economy? .. ..  | 331  |
| The New Swing Bridge over the Liffey .. ..   | 333  |
| Royal Institute of British Architects .. ..  | 333  |
| Obituary .. ..   | 333  |
| Adversaria Hibernica—Literary and Technical .. ..  | 334  |
| Alleged Vandalism at Monasterboice .. ..   | 335  |
| Stained Glass .. ..  | 335  |
| The Royal Irish Academy .. ..  | 335  |
| The River Lagan and Harbour of Belfast .. ..   | 336  |
| The New Stock Exchange .. ..   | 336  |
| The Drainage of Maryborough .. ..  | 336  |
| The Royal Dublin Society .. ..   | 336  |
| Tree planting in the City .. ..  | 336  |
| Law—A "Lateral Support" Case .. ..   | 336  |
| The Working of the Sanitary Act in Dublin .. ..  | 337  |
| Timber Clippings .. ..   | 337  |
| To Correspondents .. ..  | 337  |
| Home and Foreign Notes .. ..   | 337  |

THE IRISH BUILDER.

VOL. XX.—No. 454.

THE MUD CABIN IN HISTORY AND ARCHITECTURE.



It is probable the cave or earth-house was the first form of human habitation constructed by man to protect him and his effects from the inclemency of the cold or wintry weather. From the excavation for a home and a store-house under the surface of the earth, the next effort of the home-builder was probably to construct a rude wooden shanty of unhewn timber, composed principally of branches of trees, large and small. In the next period, sods of earth and semi-liquid clay or "clauber" was used in conjunction with the green timber—a system which existed afterwards for several centuries, under improved conditions, in the half-timbered houses of the middle ages.

In this country, while our vast native forests and woods yielded timber and fuel for ordinary and domestic wants, the more modern description of mud cabin, pure and simple, was probably but rarely erected. As soon as native forges and ironworks, smelting, and domestic firing wants had led to the denudation of our forests, some native industries gradually died out, and the people, in the absence of coal mines, took to the utilisation of peat wherever bogs were found to exist. From this period forward we may suppose the mud cabin or clay hut in various parts of Ireland cropped up, with all its attendant evils, cumulating in wretchedness till it reached the very acme of misery and demoralisation within our own time. The pictures that Arthur Young drew in his "Tour" towards the close of the last century were applicable half a century further on, and the Irish mud cabin of nigh fifty years ago has still its parallel in many parts of this

country. Wretched as have been, and still are, the homes of some of our peasants, there is no reason why even the mud cabin could not be made a tolerably comfortable home, had the owners of the soil assisted their tenants and labourers in making it such.

The mud cabins of Ireland have often been described; but it will not be amiss to reproduce the picture by partly adopting the words of a writer who, nigh fifty years since, endeavoured to improve the habitations of the poor in Ireland:—The squalid misery of these habitations may be seen in their tottering, crumbling mud walls—the rugged, furrowed, and half-rotten thatch—the miserable basket-shaped orifice that answers as a chimney—the window, with its broken panes stuffed with a wisp of straw or some rags, filthy and nasty—the dunghill before the unfitting door, which the pig has broken; altogether the erection is one which no unaccustomed eye can repose on without disgust, and it may be well said hard is the heart and worthless the man who would not desire to give any fellow-creature a better home and sojourn in this vale of sorrow and trial, and more consonant to a thinking and immortal being.

Though not by half so plentiful as in our younger days, the mud cabins in several counties in Ireland are still, alas! too plentiful. We have within recent years, in our annual reviews of the Reports of the Irish Board of Works, indicated the improvements that are taking place in several localities by the erection of a better class of human dwellings in stone, brick, and concrete materials. Landowners, however, are only to a limited extent availing themselves of the facilities for obtaining loans for erecting improved agricultural dwellings. The progress is, consequently, still slow, and the human habitations of many hundreds of our humbler countrymen must still continue for years as they have been in the past. Until brick or concrete replaces clay cabins over the kingdom, efforts should be made to erect a better description of clay dwellings. We by no means wish to perpetuate the old cabin system; but, while awaiting for the time that will see their entire displacement, we would wish to see the mud or clay cabin improved upon to the full extent of the materials ordinarily used, as also in plan and arrangement.

There are, perhaps, no people in Europe who require a more comfortable home than the Irish poor. The climate of this country is wet or humid; there are often heavy rains and fogs, and the poor labourer, who has been working all day, and often under incessant rain, returns to his home at night with his scant clothing soaked through, and, coming into his miserable cabin, finds a wet or damp floor on which to sit, wet turf or fuel with which to back his fire, and rain dripping down through the roof on the damp bed on which he is to sleep for the night. One who was fully cognisant of these facts wrote these words upwards of forty years ago:—"I really cannot understand of what stuff the landlords of Ireland were made, who allowed their tenants to dwell in such filthy dens as they have hitherto done; and I almost think it would be the duty of the government of a well-constituted state to make landed proprietors penally responsible for the decent dwellings of all those who were attached to their properties." If Irish landlords, in the opinion of the above writer, were held to be criminally responsible upwards of forty years ago, when sanitary reform was little

heard of, how much more are they not responsible now, with scores of sanitary acts and laws of public health in force, but not enforced, as the administrators in several instances are still the evil doers.

The writer we have already quoted was undoubtedly a social and sanitary reformer, but crying out like many early pioneers in the wilderness to stony hearts who would not hearken. Hear his words, which could not be much better written at the present moment, or more to the purpose:—"Well-built walls of stone, cemented with mortar or clay, slowly and firmly compressed; slated roofs, chimneys strongly and safely built, fireplaces so constructed as to ensure the greatest warmth with the least waste of fuel, windows that would admit air and light, apartments that would supply clean and comfortable sleeping and *separate* sleeping accommodation—these I deem essential to the comfort, the health, the safety, and the morals of the poor. How they are afflicted with rheumatism, indigestion, palsy, and chronic diseases, arising from bad food and bad lodging—need I remind them of the watchful, sleepless misery that attends the fear of having the thatch of their house set fire to by the wanton or vengeful incendiary? need I allude to the indecent and revolting practice of three or four adults sleeping (and that quite naked) in one bed? Surely all these are evils affecting the temporal and eternal interests of our poor countrymen; and it should be the wish of every patriotic man, as soon as possible to remove them."

It is worth mentioning that the same writer tells us that he often entertained the scheme of instituting a society for the improvement of the dwellings of the poor, and of forming a fund for aiding the deserving, the peaceful and industrious in building the walls and slating the roofs of their dwellings. Our Irish philanthropist lived perhaps a little in advance of his time, but the seed he sowed nigh half-a-century ago has taken root.

We often have wondered why the system long used in building mud walls in the south of France was not introduced into Ireland or England. It is of old date in France, and the operation was not unlike that gone through in the concrete construction of the present hour. Mud walls were raised by using movable frames and ramming with a tool similar to a pavior's mallet. Dwellings of two or more storeys high were thus raised, strong and durable, and drier, and warmer than many stone structures, certainly far stronger, and more comfortable than the Irish mud cabins.

About the year 1831 a little tract was published in Dublin, by Curry and Co., entitled an "Important Discovery." This little work related to an improved method of building mud cabins for the Irish peasantry or agricultural poor. Its recommendations for the time were good, but it was not an important discovery, for the methods recommended were not new, though seldom previously practised in this country. The improvement consisted in inserting in the angles or corners of the mud building a crooked or angular stick (a sort of angle bracket in the thickness of the wall), course after course, so as to form bonds or binders, and thus hinder the walls yielding, as mud walls are prone to do at the corners. The whole *modus operandi* of building a mud cabin or clay cottage according to the above system may still be worth knowing, and as it forms a link in the history of the mud dwell-

ling we will furnish the particulars. Having determined your site and plan, the foundations were dug about 1 ft. in depth, and about 2 ft. broad. As much stones as would raise the foundations 1 ft. above the level of the surrounding earth was deemed necessary, the larger stones being laid outside and well filled with the smaller stones. The finest kind of clay was used as a mortar to fill up the vacancies or opens in every part. The foundation course being finished it was allowed to settle a little. Next, the clay, properly worked, was firmly put on in small portions at a time to the height of 2½ ft. The walls having been brought to a level, the binding pieces or ties were cut from branches of trees of between 2 and 3 in. in thickness. Curved pieces were used generally for the corners of the building, but straight pieces in other places. As the branch timber was round when sawn, it was advised to roughly square the rounded sides with a hatchet or bill-hook, that the pieces might lie firmer on the work. Previous to placing these braces or binders in the wall a hole was bored at the end of each with an inch auger, and through these holes two pins a foot long each were driven, and equally divided in length at top and bottom. The four ties or braces were then placed on the centre of the four angles of walls, and the work of building was proceeded with to the height of 4½ ft., when another set of binders or braces was used. When the walls were built to 6 ft. high or more, in proportion to the height intended, four other braces were prepared and placed as before. The third course of braces (twelve in all) being placed, the wall was continued to the desired height, which was generally from 7 to nearly 9 ft.

A mud cabin thus built is certainly stronger than by the ordinary method we have often seen practised. We have seen the road mud utilised in the construction of clay walls, though pits in country places are dug for the material, yellow clay being preferred. The mud-wall builder is often the labourer, who is destined to live in the house he assists to build. The hedge carpenter or wheelwright sometimes puts on the roofing timbers, the rafters in many cases being round timber, large branches, or young trees, unsquared. Next comes the thatcher—a skilled workman, who, in his way, often performs artistic work. The thatcher's abilities, however, are but rarely shown on the roof of the labourer's cottage. The good thatcher's handiwork is reserved for the fancy cottage of the squire, or for the hay-rick or corn-rick in the farmyard. The poor tenant very often finds it difficult to procure a few sheaves of straw to mend the roof of his cottage, or time to do it, save he works in the long summer evenings in his own time, when he needs rest. In the absence of straw for a covering, furze, heath, rushes, and other materials are used for thatching the mud cabin.

The ordinary type of mud cabin is a two-roomed dwelling—a kitchen and bed-room. In many instances the outer or kitchen door is in the centre of the front wall, and opens against the room partition. When this is the case the room door is in the centre of the partition. The windows in some of the better class of mud cabins are four-paned sashes; in other instances they are metallic frames, with a number of diamond-shaped panes. The lowest class of mud cabins have merely roughly-shaped holes for the insertion of one pane of glass, and this pane is gene-

rally what is called a "bull's eye;" but we need not again go into details of the miserable construction and surroundings of human habitations which still dot and disgrace our country. Mud cabins are not yet eliminated from England or Scotland, but they are fastly disappearing. In Ireland the mud cabin of the worst type still exists, and, as a barbarous relic of the past, it is likely to exist in our midst for several years, until the landed proprietors of the country are forced through very shame to replace them, or stand self-convicted as enemies of national morality and public health. The mud cabin can scarcely ever become to antiquaries or archaeologists a subject to theorise or dilate upon. A cave, a cairn, or a mound, a dolmen, or a Druid's altar, may suggest glorious visions, but a mud cabin is of the earth earthy; though very old it is still very new, for it stands in our midst, mocking our civilisation, and laughing to scorn our orders and architectural styles. And, hear it, statesmen and landed proprietors of Britain—ye who constantly descend on the spread of education, the chastening influence of the Fine Arts, and the value and glory of the paternal laws by which we are governed—to you, messieurs, as law-makers and law-breakers, we owe our inheritance of the mud dwelling, with all its abominations. On the owners of the soil devolves the duty of housing properly the dwellers and workers thereon, and of making the homes of the poor not houses of disease and death, but nurseries for the building up of a moral, vigorous, and healthy race of men.

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

IN Part II. of their report the committee deal with the departmental staff, the executive and administrative branches, the particular duties of the officials, expenses, &c., and several recommendations are made with a view of increasing the future efficiency of the Board. The duties of the officers in the registry branch appear to be satisfactorily performed. The accountant's branch, under the superintendence of Mr. Soady, whose ability is acknowledged, is well administered, and, to meet the duties imposed by an increase of business, an additional clerk was recommended, and, pending the publication of the report of the committee the appointment was made. The engineer's branch consists of one engineer, an assistant engineer, valuator, examiner of land improvement, and a temporary draughtsman. To these five offices additions are proposed, as the present staff is considered inadequate. The committee thus express their opinions in support of an increase in the staff of the engineer's branch:—

"With a view of relieving the engineer and his assistant of details and routine work, and thus enabling them to devote more time to local surveys and inspections, and to confine their attention chiefly to the higher work, Lord Lansdowne's Committee contemplated the appointment of two draughtsmen, 'to prepare detailed drawings from the sketches of the engineers, to make all tracings required, and to copy out all specifications and estimates.' There has, however, been but one draughtsman appointed, and his appointment is professedly only temporary. In order that the work may not press too heavily on the staff of this branch (as it would seem now to do), and that the duties may be performed in an efficient manner as their importance demands, we think that in addition to the appointment of the present draughtsman being made permanent, the engineer's department should be strengthened by

the appointment of an officer possessing qualifications similar to those required of a clerk of the works, who could take out quantities and assist in making inspections, and also of another person who could combine clerical with professional duties."

We entirely agree with the committee in their recommendations on this head, and we hope in the next annual report of the Board to hear that the recommendations were carried into effect.

At first sight the staff of the architect's branch would appear to be sufficient for the business; but when it is considered that there are a variety of duties which devolve upon it, apart from the general control and superintendence of the buildings under the charge of the Board, it will be admitted that the recommendations of the committee are not uncalled for. Before the inquiry took place the architectural staff consisted of the chief architect, one assistant ditto; three surveyors of buildings, seven district clerks of works, one furniture clerk, one superintendent of fuel and light, two examining clerks, one draughtsman, two temporary draughtsmen, three men copyists, and one boy copyist. It will be seen by the above list that the staff of this branch has to do with the duty of finding and checking the supplies required for the use of buildings, as well as with the preparation, examination, or revision of plans submitted by local bodies or private individuals who desire to obtain advances from the Board. The works have also to be inspected during their progress; but the architect's staff has nothing to do with the building works under the Land Improvement Acts. While some persons have contended that the staff of the architect's branch was sufficient, those who were more intimately acquainted with the duties have long since acknowledged that the branch was altogether under-manned. After due inquiry, the committee came to the conclusion that more assistance was needed, and their recommendations are thus stated:—

"We have already recommended that an addition of two should be made to the number of district clerks of works. We have further to recommend that a lower division clerk should be appointed to assist the furniture clerk, so as to secure a more thorough check on the supply of the articles, the requisitions received, and the accounts rendered. We consider also that another lower division clerk is required for employment in the general correspondence of the branch; and we strongly recommend that Mr. Healy should fill this appointment. He has served as a boy writer in the department for some time, has acquired a full knowledge of the details of the business, and has recently been placed on the list of successful candidates for the lower division clerkships. He is thus in every respect qualified for the post. We further think that the business justifies the permanent appointment of the two present draughtsmen, with salaries as lower division clerks."

The above recommendation contains a wholesome principle which we would like to see more often sustained: that of promoting men who have spent long years under the service of the Board, and who have acquired a practical knowledge of the duties they are appointed to perform. Promotion should, as a general rule, go by seniority when it is accompanied with professional and business capacities. Too often we have witnessed in Government and other public departments raw fledglings pitchforked into posts over the heads of old public officers, for no other reason than that the younglings were relatives of Mr. So-and-so, or that influences were worked in their favour. It is not only dishcartening, but cruel to treat efficient senior clerks or other officials in the manner

\* See ante.

they are often treated by ignoring their existence and long services in favour of some raw head and raver brained sapling fresh from school, with no knowledge of his intended duties. On the other hand, no matter how clever he might be, except under very exceptional circumstances, the young official should be made to commence at the lowest rung of the ladder and conquer his way upward. Civil Service examinations are not always carried out as desirable, and men, as a general rule, should obtain their appointments by competition. This system has not always obtained in the Irish Board of Works or in other native boards; and there are many officials, we fear, in our public boards who would cut a sorry figure if they were called upon to-morrow to stand a moderate examination. Both in the engineer's and architect's branches there are assistant officers who are allowed to exercise betimes too much power; and, we fear, their reports are too often accepted without further enquiry. With clerks of works, when they honestly and independently perform their duties, satisfactory results may be expected—good building and good materials. We are far from insinuating that all contractors are rogues, and that all clerks of works are prone to play into the hands of the former. As an advocate of architectural, engineering, building, and cognate interests, it is our duty to stand by the legitimate interests of our profession; but in is not our duty to wink at deception wherever practised. We, therefore, think that when a design is once determined upon and a contract signed for work for which a fair price has been obtained, it is the duty of architects and clerks of works to insist that the work be carried out according to the specification. One material should not be allowed to be substituted for another by any understanding between the clerk or the contractor. If the builder cannot procure the article specified, through any difficulty in the market, the order to substitute the one for the other should come through the architect, and this circumstance should be clearly reported by him to the heads of the department. Our remarks will apply to all contracts, whether under a Government contract or belonging to outside public boards or companies. If clerks of works are not reliable much mischief and positive dishonesty may ensue; and when bad examples are set by some unprincipled architects in their practice, no wonder need be expressed that some clerks of works will also fail in their duties. Of course we must admit there are unprincipled builders as well as other folk, who, if they are allowed an inch will take an ell. In dealing with public moneys, even where no deliberate dishonesty is intended, there is often a great looseness manifested. Corporations and local boards are often lavish in voting moneys; and, where there is no real competition, contractors of every kind are not backward in sending in exorbitant tenders, feeling pretty well assured that by the help of their friends in office they will obtain the contract.

We hold that in a Government contract there is the same necessity for economy consistent with due performance of the works required as with other boards. The money that pays a Government contractor is public money, raised too often by heavy taxation. This view of the case is very seldom considered, and the most worthless materials and stores are often supplied, it being considered no wrong to "salt" the

Government. Those also who connive at this wrong are not injuring the Government perhaps so much as they are the whole community, and "salting" the Government often means salting the bleeding wounds of the taxpaying public. We will not here discuss the ins and outs of the whole system of public tendering and contracting, and detail the abuses contingent. We may, however, remark at this point that the evils and injury that ensue from even one civil servant of the Crown proving unfaithful to his duties are incalculable.

We have long thought and advocated, and we still hold that fair salaries and wages should be paid to all employés in Government service; and exactions, black mail, privileges, and other forms of perquisites should be rigidly put down. When officials—particularly under officials—are badly paid, there is a temptation to do a little quiet stroke of business on their own account. "Hush money," in one firm or another, is one of the cancers of modern society; and in the world of building wants, as well as in other directions, this evil will be found cropping out in a thousand and one places. The rage for cheapness leads, of course, to the manufacture of much flimsy wares and worthless materials; but, apart from low speculative buildings, worthless materials and goods in abundance are supplied and used by public boards and companies. A Government board or railway company, &c., can afford to pay a good price, and good materials are generally if not always stipulated for. Bad materials and workmanship can then be only possible through the dishonesty of somebody failing in his duty. In our experience of public and other works in this and the sister kingdom, we have not seldom witnessed very inferior work done for Government departments—work which would not be turned out by any respectable builder who had a reputation to maintain. The history of the Barrack contracts in Dublin alone for the last thirty years or upwards, if probed closely, would yield strange discoveries how they were obtained and maintained, the class of contractors who secured them from time to time, and the manner in which some of the works were carried out. We are not alluding to any recent instances or to any special contract in particular. *In globo*, the system of contracts in connection with barrack and other kindred work was for long years more than unsound. We will draw a veil over certain notorious transactions, as some of the parties concerned are in their graves, though some of their fast friends are still living. To the living we will extend the charity of our silence, for they are no worse than their superiors in the social scale. It was their misfortune more than their fault that they came in contact with a vicious system; as years advanced they began to see that nothing was wrong, from their point of view, and that it was only strictly a matter of business for Jack to become as good as his master.

Reverting to the subject of the report of the committee, we find there are several matters of detail which we would like to pass under notice, but we cannot spend time over them. We see, in again referring to the Blue Book, that the committee, under the heading of salaries and expenses, remarked as follows:—

"We received several applications from officers in the employment of the Board for inquiry into their rate of pay; but, in consequence of the office having been only recently re-organised, we were

instructed to exclude from our consideration the general question of salaries."

Doubtless, several of the officers in the employment of the Board have their grievances, and would have told their tale before the committee had they been allowed. The rate of pay that some of them receive is comparatively small, and the necessity that exists for increasing it has been answered already in our remarks further back. The committee has recommended, and justly, an increase of pay to the Land Improvement inspectors, whose duties are important, they being often obliged to travel long distances. In another article we will endeavour to bring our series of notices to a conclusion.

In reference to some remarks in our article of the 1st inst., we have received the following communication, to which we give prompt insertion, as it conveys satisfactory intelligence:—

Office of Public Works, Custom House,  
Dublin, 7th November, 1878.

Sir,—With reference to the article at page 308 of the IRISH BUILDER of the 1st inst., I beg, by desire, to state, as far as this office is concerned, the practice is never to open tenders on the day they are due, *i.e.*, the date named in advertisement; and, consequently the danger to which you referred, *viz.*, of later tenders being considered—previous ones having been opened on the same day—cannot possibly arise in this department.—I have the honour to be, sir, your obedient servant,

THOMAS LONG,  
Private Secretary to the Chairman of  
the Board of Public Works.

#### CORRESPONDENCE.

#### MUNICIPAL ELECTIONS AND MUNICIPAL REFORM.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The time approaches when candidates for municipal honours will be addressing the "free and independent burgesses" in language from which one would infer that the said candidates were indignant at the abuses which still exist in City affairs, and are only anxious to be returned in order to apply themselves forthwith to their removal. Would it not be well if, prior to the elections, which take place on the 25th inst., the burgesses would hold ward meetings, which their representatives should be called upon to attend, and there and then render an account of their stewardship? There are many things to be talked over at those meetings, not the least important of which is the management of the City funds, which seem to be voted away without any consideration, more particularly in the advances made in the salaries of officials. Those increases can be had for the asking. Those gentlemen who are so generous with the public money are, with few exceptions, engaged in business as merchants, shopkeepers, &c. Do they advance the pay of their clerks and those in their employment at the same rate as they do those similarly engaged in the City Hall? Certainly not! The great majority of the ratepayers are pursuing their several callings from early morn till six or seven o'clock in the evening. They are not—as Charles Dickens tells us of clerks in another public office—"trying to put in from eleven till four," on first-class salaries, raised periodically, and with the comforting assurance that a pension is secured to them after ten or twelve years' service! In an overtaxed city like Dublin this thing of pensions should be done away with. There are two claimants for such at present—one asking for a "retiring allowance" after being in the receipt of a good salary for the past eleven years, the other claimant being one of the ornaments (that should be abolished) for the last thirty-seven years, receiving all that time a good salary! With the exception of half-a-dozen members

of the Corporation—and they are comparatively new to the business,—the remainder, for all the use they are, might as well remain at home, except when a job is to be carried or a vacancy to be filled up by some of their relatives, when they attend to “form a house.” As the Corporation is at present constituted, the ratepayers have no control over the funds, or anything else connected with it. The whole concern requires to be remodelled by Parliament, as much as it did in 1841. From the state the representation is getting into year after year, the council chamber of the “second city of the empire” will shortly be a branch of the “Grocers’ and Vintners’ Society.” As it is, six of the aldermen and ten of the town councillors are interested in the whiskey trade, and they as a class are not the most intelligent members of the community. Chatham has put it on record that “taxation without representation is tyranny.” That injustice still exists in the Corporation council, from which the major part of the taxpayers are altogether excluded. Every class is, or can be, represented but them, as the following list will show. There are at present in the council—

|                               |                     |
|-------------------------------|---------------------|
| 16 Spirit Dealers             | 1 Chandler and Soap |
| 12 General Merchants          | Boiler              |
| 4 Lawyers                     | 1 Stock Broker      |
| 3 Printers and Publishers     | 1 Iron Founder      |
| 2 Druggists                   | 1 Pawnbroker        |
| 2 Builders                    | 1 Architect         |
| 2 Mineral Water Manufacturers | 1 Miller            |
| 2 Newspaper Proprietors       | 1 Tanner            |
| 2 Medical Doctors             | 1 Sack Manufacturer |
| 2 Coach Manufacturers         | 1 Cutler            |
| 2 Bakers                      | 1 Theatre Lessee    |
|                               | 1 No profession     |
|                               | 60                  |

Hoping the publication of the above may lead to something useful,—I remain, yours,  
&c., THOMAS PARKER.

10 Belvidere-avenue,  
Nov. 6, 1878.

### SCROLL OR NEWEL.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In reference to the query in your last issue, relative to the terms “Wreath, Writhe, or Twist,” I would have answered your correspondent in a similar manner as you have done yourself by showing that all the terms are technically correct. In writing to you, I will avail myself of the opportunity of putting another query to your building operative correspondents. Which is the proper termination to what is called a continued handrail? Should the convolved or spiral ornament in handrailing called a scroll be the termination, or, rather I should say, the starting point of the handrail? Would not an ornamental newel, octagon and panelled, be a better termination for the handrail for the better class of stairs than the scroll? But, whether plain or ornamental, is not a newel more fitting, more strong, and, for small hall-ways, less in the way, and consequently does it not afford more space than the scroll? A large scroll standing over a larger circular base, the curtail step is certainly often in the way, and both occupy space in the passage beside that should not be encroached upon, at least in houses of small dimensions. The scroll and its adjunct below accumulate dust and dirt, which a newel would not. I must confess I have a fancy myself for the scroll, but I would like to hear the views of your correspondents, *pro* and *con*, in respect to scroll and newel.—  
Yours,  
A CLERK OF WORKS.

### KINGSTOWN TOWN-HALL.

At a meeting of the Commissioners of Kingstown Township on Tuesday, it was ordered that the architect (Mr. J. L. Robinson) be paid one-half of his commission on the work already executed at the Town-hall. Mr. Kelly moved that leave be given to hang up in the Kingstown Railway Station a sketch of the new town-hall, so that the ratepayers might see what they would get

for their expenditure. As to the ceremony of laying the “first stone,” the chairman said that he would be ready at any time the commissioners would fix, but that it might be postponed for the present. Mr. Carroll said he had prepared a stone for the first laying. A conversation then ensued as to having an entablature, with suitable inscription, and the names of the commissioners upon it. The architect said a first stone and an entablature stone were totally different articles. Finally, after a lengthened discussion, it was resolved to refer the matter to the building committee to draw up a report for the entire board to approve if suitable.

### “THE MEN OF THE TIME.”

The seers of our city  
Are six Aldermen,  
And, more is the pity,  
Town Councillors ten.  
In sounding their merits  
Jack French never stops;  
He waters their spirits  
And spoils all their hops!  
He oft brews a storm,  
And, what do you think,  
He drowns them while warm,  
Deep in their own drink!  
Have mercy, friend Jacky;  
Don't do it so hot!—  
A whiff of tobacco  
Would drive them to pot!  
The corporate quorum  
No member should douse,  
*Sæcula Sæculorum*—  
They are the “Whole House.”  
T. C. D.

Trinity College.

### THE MUNICIPAL APOTHEOSIS.

THE Dublin publican, municipal or non-municipal, is a great personage, and, if proof were wanting of the statement, the history of our corporate representation for the last quarter of a century will supply all that is needed. The Dublin municipal publican is an illustrious representative, and no wonder need be expressed if he and his kindred representatives are deified after death like the Roman celebrities of old. Against the publican or vintner as a man and a citizen, we have no ill word to say, for several of them are charitable and stout supporters and upholders of their respective creeds; but of the publican multiplied, or as a factor, in our municipal representation, there is something serious to say; and, as advocates of social and sanitary improvements, we will not shirk from speaking our mind. That there should be sixteen or upwards of spirit dealers in our Town Council is a matter for very serious consideration; it is a representation altogether out of proportion with other trade interests represented, and a dangerous voting power for any corporation to possess, which is supposed to represent the general body of ratepayers. In this journal we do not discuss purely religious or political questions, and when we touch upon these questions it is only in an incidental way. *En passant*, we may remark it was to the liquor interest that the present Government owed their accession to power, and in a smaller degree it may be truthfully said that it is owing to the liquor interest in the Dublin Town Council that the influence of the publicans is so often exercised to delay measures of reform believed to be inimical to the prosperity of their body or their trade. It is quite possible for a publican to be a social and sanitary reformer, but how many of our municipal whiskey sellers have signalled their career in or out of office as such. Drink has long been the ruin of this country, and, of course, the

greater the amount of drink consumed, the more prosperous will be the distilling and brewing trades, and, of course, the retail business. Moderate refreshment is one thing, but habitual drinking is quite another, and it is owing to the immediate drinking on the part of our working classes that the liquor traffic is so prosperous and the interests in connection so powerful for human ill.

Apart from this view of the question, and on the broad grounds of public policy and polity, we contend that the publican representation in our Corporation should be limited to one half or less than what it is at present. We may feel assured that the municipal publicans will not voluntarily submit to have their representation reduced; but we assert that it is absolutely necessary that the ratepayers of Dublin should take immediate steps to more equalise the various interests represented at present in our Town Council. Our suggestions will, no doubt, appear very unpalatable to the members of the trade alluded to, and hard words may be flung at us. We are not mere purists, neither are we teetotallers, but as independent advocates we consider it our bounden duty to speak plainly and boldly, that an urgent reform long desired may be hastened.

It is an undeniable fact that, with few exceptions, the representation at present in our Corporation is of a very low order of intellect; and certainly the members of the drink interest, as a body, are not conspicuous as practical speakers or workers on committees. The majority of them are mere dummies, and in their votes alone consist their power and usefulness in their own behalf and of the party who utilises them.

It is somewhat humiliating that we have to write thus of the representatives of our municipal body—a body which, if properly organised, could be a credit to the city, instead of what it has often of late years become—a libel on municipal government, by bickerings and political and religious wrangles.

Year after year we have appealed to the ratepayers to take a more lively interest in local government, and once more we would earnestly advise them to give their votes to none but those who are likely to prove a service, and are honestly intent on reforming the representation of the city. The ward elections will take place in a few days, and if a determined effort was made, some few new and good men could be elected with little trouble. By all means let the whiskey representation be reduced a third, if not one-half for a first effort, and let intelligent and practical-minded and business-like members representing other trade interests be elected.

We want less talk and more work in the municipal body. Several public improvements have been lying for years in abeyance, and if the present representation continues, nothing need be expected but tall talk, jobbery, and dry rot. If the citizens of Dublin are content to see the present pernicious system of representation continued, no doubt need be entertained that the civic history of Dublin will be signalled by the Apotheosis of the Publican—and the Sinner.

A handsome monument has been erected in All Souls' Cemetery, Kensal-green, Harrow-road, over the tomb of the late Madlle. Titiens. It is of red polished granite. At the head and feet are wreaths in white marble. The following is the inscription:—  
“In memory of Therese Titiens, who died Oct. 3, 1877.”

# ON THE DESIRABILITY OF OBTAINING A NATIONAL THEATRE NOT WHOLLY CONTROLLED BY THE PREDOMINANT TASTE OF THE PUBLIC.\*

SOME seven years ago, the writer, when presiding at a public meeting whereat the lamented Dr. Doran had delivered an eloquent address,—"For and Against Shakspeare," urged the want of a theatre not wholly controlled by the temporary predominant taste of the public, and commented on the unsatisfactory condition of things with regard to the education of actors. The establishment was called for of a theatre, subsidised by Government or by a public subscription, wherein plays of the highest character should be performed, and which should serve as a school for actors. These words evidently gave expression to the thoughts of many. The Nestor of English dramatists, Mr. J. R. Planché, Somerset Herald, taking them for a text, published a letter wherein he, too, called for "the assured existence of a theatre in which the masterpieces of our unrivalled dramatic authors should be constantly and worthily represented where,—

"Thoughts that breathe, and words that burn,"

should be uttered by actors who can feel and express them to an audience 'fit,' however 'few,' without the fear that their salaries will not be forthcoming on the following Saturday, and that the manager, disheartened by the appearance of empty benches, will change the bill, discharge a company he has *jobbed* at a week's notice, and endeavour to outlive his competitors by pandering to the predominant taste of the public," and he said, with reason, "Is it not a just cause of complaint?—Is it not, in fact, a national disgrace that there should not be one playhouse in this vast metropolis where those who can still enjoy the most sublime poetry, the most brilliant wit, and 'the pure well of English, undefiled,' may resort for an evening's rational and intellectual amusement afforded by a creditable representation of the masterpieces of our unrivalled British dramatists?" Persons of high rank, and men of large fortune, can be found to support establishments, the performances and performers at which it is not for me to criticise, yet not one English nobleman, not one English merchant prince, steps forward to lend a hand to raise the drama from the dust and oblivion into which it has gradually fallen, until it is actually unknown to the rising generation, who become naturally inculcated with the predominant taste of the public.

Mr. Tom Taylor followed with a series of letters backing up the call; first showing the changes that had taken place as to the stage in recent times. "The country theatres a few years ago," said he, "flourished as feeders of the London ones; and a York, Bath, or Norwich reputation, well assured, was the certain passport to a London position, reached often by way of Edinburgh or Dublin, but always the goal of a steadily followed and successful career. Once established at Drury-lane, Covent-garden, or the Haymarket, the actor was a personage, after his degree." The "actor and his work had, besides, their place in the world of art. Productions of new pieces were events in that world. Great critics were not above sitting in judgment on plays and players. Great painters were proud to paint, great statesmen to know them. The House of Commons paused once in debate to pay a formal compliment, by the eloquent lips of Burke, to Garrick, accidentally present in the Speaker's Gallery. We have only to read the critiques of the German Lichtenburg (written about 1775) on Garrick, Weston, Smith, and other actors of that time, to feel how immeasurably more intellectual an art acting then was, and in how incalculably more respectful and thoughtful a spirit it was

viewed and judged than than seems even conceivable nowadays."

Another writer said,—What we want is a house in which plays of the highest class shall from time to time be presented, with the certainty that while public taste is being educated, the actor and the manager are not being ruined. "Such can only be obtained on the condition that there shall be a sum of money annually devoted to the support of the theatre, whilst the experiment is attempted. Government undoubtedly ought to do this. Political economists of the modern English stamp would of course cry out 'waste' were such a scheme broached. But real thinkers know that the ameliorative influence of education in art gives good interest for money invested in its furtherance. Education is at once the safest and pleasantest way of reducing expenditure. No less sure, however, than we are that any Government which gave, under wise supervision, a moderate allowance to a theatre would act wisely, are we that no Government will attempt it. Will not, then, the art-patrons of England join together to supply us with the fund we want? Subscriptions, endowments, means of all kind should be tried. How many noble fortunes are spent in maintaining a theatre under every dishonouring and degrading influence and association? Is there no man who will do for the sake of the loveliest of all mistresses, art, what men do for frowsy haridans, or vulgar, insolent, and ignorant women, with whom all contact is degradation? How shall the start be made? Who will be first in furtherance of a scheme of the kind?"

Amongst other supporters came Lord Dufferin, who, at a dinner in aid of the General Theatrical Fund, said that next in importance to the education of the people was the amusement of the people; and it had occurred to him that if a national theatre could be established on a satisfactory footing, we might, by providing rational amusement and recreation, find an engine with which to encounter some of the many vicious attractions which abounded in large cities. State subventions to the encouragement of the drama existed in most other European countries, and perhaps the time might come when it would be the case in England.

Mr. E. L. Blanchard, Mr. Horne (the poet), Mr. Arthur Sketchley, Mr. Joseph Knight, and others who had good right to speak, supported the proposition, and a committee was formed which included some well-known men of letters and eminent actors. Several meetings were held; three or four distinct schemes were submitted to writing, but after an adjournment at the close of the season the committee was never called together again.

The movement had its effect, admittedly, on the bills of some of the theatres; the manager of the very Home of Burlesque ("The Strand"), for example, quoting a portion of one of the letters written, proceeded to revive some of our standard comedies. The spasm, however, soon came to an end.

Recently the vexed question of the present state and future prospects of the English stage has been examined and commented upon in various important quarters, with so much good sense and impartiality by writers evidently interested in the welfare of the stage, as one of the most valuable institutions for the advancement of education, and the encouragement of all the higher aspirations of the human mind, social, political, or simply literary, that if it were certain that what has been written would be everywhere read, the matter might be left where it is. It is necessary, however, to say the same thing again and again if we would have it known and acted on; and this must be my excuse for now bringing the subject forward. One of the most painful facts is the predominance of what Mr. Dion Boucicault has felicitously described as "commercial management." Any person, however incompetent to hold such a position, provided he has money of his own or of some one else's to risk in the speculation, may obtain the

licence of the Lord Chamberlain to open and conduct a theatre, and consequently inflict upon the town any performances which he (the manager) considers most likely to bring money, no matter how destitute of literary merit,—how demoralising its tendency,—if it can only slip through the not too rigid scrutiny of the Examiner of Plays. Detrimental as this state of affairs must inevitably be to the drama, still we must, in justice, admit the blame does not attach itself to the manager or to those who furnish the funds. It is a speculation perfectly legitimate as a matter of business, in which the only object of the persons concerned in it is to make money. If the *showman*, for such is an equally true designation of "the commercial manager," can increase his nightly receipts by ministering to the prevailing taste of the public, he will naturally do so; and the lower such taste may be, "the better," it has been truly observed, "is it for him, inasmuch as it can be more readily and cheaply gratified." He has also an additional incentive to such a course in the fact that his own standard of taste is as low as that of his audience, and that he honestly considers that the pabulum he provides for them is of the most delectable description. A booth at a fair or a "penny gaff" has the same *raison d'être*. Lamentable as this may be, there is a far greater evil of modern growth which has deteriorated and, at the same time, disgraced the stage of this country to a fearful extent, and which, to our shame be it spoken, does not and would not be allowed to exist on any other in the civilised world. It is a delicate subject to handle; but it is of too serious a nature to be ignored by those who would heartily aid in elevating the drama and supporting its professors, and I am, therefore, reluctantly compelled to speak out plainly on the subject. Much as we may regret that any theatre should be subject to the control of a person incompetent to appreciate the higher objects of the drama, and who only regards what should be a temple of the arts as a shop for the sale of any manufactures which may secure him the best return for the capital invested, with what feelings are we to contemplate a theatre avowedly directed, or notoriously known to be influenced by, an illiterate and disreputable *favorita*, possessing, beyond the charms of her person (which it is her pleasure lavishly to display to an admiring public), not the least qualification for her profession; not the remotest comprehension of the character, if perchance the part she has assumed has any character in it, or of the language, should it be innocent of coarse allusions, or contain a point more refined than the slang of the music-halls?

What class of drama worthy of the name can be expected to flourish under such circumstances? What a weapon is placed thereby in the hands of the enemies of the stage and the calumniators of actors and actresses. We are no purists. We consider that the green curtain that drops between the performers and the audience silently intimates that public criticism is limited to the scenes and actions it had been raised to exhibit, and has no right jurisdiction beyond the space they occupy. The playgoer who pays his money, but exercises his acknowledged privilege to hiss the heroine of the piece if in his opinion she acts badly or offends decorum, has no right to inquire whether she can produce her "marriage lines" without the walls of the theatre, or busy himself about her private life and associations. When, however, there is no talent to justify the *soi-disant* actress's intrusion on the stage, and the motive of her appearance is patent to the most careless spectator, it is an insult to the public which, if not resented by the audience, should be sternly reprobated by the Press,—not goodnaturedly glossed over, as we almost invariably find it. Such an exhibition would not be tolerated for a moment in any foreign theatre. Indifferent as a French *parterre* may be to the immorality of a *libretto*, complacently as it may contemplate the human (female) form divine,

\* By George Godwin, F.R.S. Read at Cheltenham Congress of the Social Science Association (Art. Department), October, 1878.

liberally developed by the fair performers in it, incapacity is an offence utterly unpardonable, and immediately visited with indignant sibilation. That such exhibitions have been too frequently witnessed in a London theatre is a fact as notorious as it is disgraceful. Happily, at the present moment London is relieved from such an exhibition; and the introduction of farcical and fantastical opera on our stage has also gradually ejected from it the silly and vulgar burlesques which recently infested nearly every theatrical establishment, and in which, as there was nothing to act, any young lady could gabble through her part, call attention to her bracelets, and be rewarded by a shower of bouquets at the fall of the curtain.

The *libretto* of Halévy and Meilhac and their *confrères*, or our own Gilbert and Albery, and the music of Offenbach, Lecocque, Hervé, Planquette, Sullivan, Clay, or Cellier, require artists for their interpretation and execution, and the demand creating the supply, we are daily gratified by the *début* of intelligent and educated aspirants to histrionic and vocal honours, who can speak English, and sing with taste and in tune. But another injury was done to the drama by the toleration of the Press and the public of the above inanities. Actors of rare ability have been induced to prostitute their talents in attempts, frequently but too successful, to work up the sorry material into something that might give it popularity. It was distressing to see such thorough artists as Mr. Lionel Brough and Mr. Terry humiliated to the rank of clowns in a circus, or the Merry Andrews that grin through a horse-collar; heartbreaking to think that Miss Ellen Farren, whose genius would enable her to rival Mrs. Abingdon or Mrs. Jordan, should be condemned to exhaust her animal spirits in galvanising the dry bones of a dreary burlesque. The darkest hour is said to be the nearest to dawn. There is hope that the darkest night of the drama has passed, and that a new day is awaking.

It is nonsense to talk of the decline of the drama. It has not declined,—it has simply been thrust aside by stupidity and cupidity. The English drama is like its greatest master, “Not for an age, but for all time.” The threadbare worn quotation,—

“The drama’s laws the drama’s patrons give,  
And those who live to please must please to live,”—

has been misinterpreted by theatrical showmen for their own purposes, and is still made the excuse for every desecration of the stage by many who know or ought to know better. Who are the drama’s patrons? That large portion of the pleasure-seeking public who will go anywhere to see anything?—to whom a theatre is a theatre, and the one they prefer that in which they find themselves “pleased, they know not why, and care not wherefore”? Or are they the fast young men of rask and fashion, and their empty-headed imitators in the middle classes, who vote everything dull that is not meretricious, who occupy the stalls of any establishment where common sense is least respected, and decency most disregarded? or are they the more fastidious of “the Upper Ten,” whose refined tastes lead them to frequent those theatres only wherein modern comedies, original or translated, faithfully reflecting the manners of the present day, are irreproachably acted and put upon the stage, with that attention to the minutest details of furniture and ornamentation which was formerly conspicuous by its absence? “*Chacun prend son plaisir où il le trouve*,” and far be it from us to object to it; but I must again ask, are any of these the patrons of the drama?—of that drama which is the pride and glory of England?—the grandest drama in the world? Did it never occur to a manager that besides the masses we have enumerated, and whose special predilections are abundantly provided for, there are thousands, to speak moderately, who never willingly enter the doors of a theatre, and would eagerly patronise one in which they could enjoy the rare delight of witnessing the masterpieces of our great English dra-

matists adequately interpreted? It will be answered “Yes, it has occurred, and the experiment has been tried and failed.” Shakspeare has been declared by an experienced London manager to spell “ruin,” and Byron “bankruptcy.” He invariably, however, flies to the “divine Williams” for assistance when his other resources fail him.

It is really pitiable to listen to such assertions, knowing, as we all do, the data on which they are founded, and painful to reflect that there are several clever public writers, themselves successful dramatists, who profess to hold such opinions, and that, too, in the face of facts of recent occurrence, which they cannot be ignorant of,—nay, which it may have been the duty of some of them to record as theatrical reporters. Can any instance be adduced by them of the revival of a great play, efficiently acted and artistically placed upon the stage, which has not been a financial success? Was “*Hamlet*” played at the Lyceum for upwards of one hundred successive nights to bare benches? Was “*The School for Scandal*” acted at “*The Vaudeville*” for four hundred nights to a “miserable account of empty boxes”? It is futile to contend that such successes were accidental, and their continuance could not be calculated upon,—that other revivals had been unproductive, &c. No sane person would venture to predict an uninterrupted course of success as the result of any management, and the only question is whether less money has been lost by the production of poor new plays than by the revival of sterling old ones.

Injudicious selection, unintellectual stage-direction, incompetent exponents, must in these critical days entail failure, and deservedly so. It is sufficient for our argument that, as much loss, if not more, attends the failure of worthless modern productions, which have depended solely on spectacular effects for their attraction. Our antagonists, and there are amongst them authors of undoubted ability and considerable experience, have repeatedly expressed their firm conviction that the mission of the stage is to “hold the mirror up to nature” as nature appears to us in the present day. To

“Shoot folly as it flies,  
And catch the manners living as they rise.”

I do not deny that for a moment, and rejoice in the success that has attended many pieces which have been written on this principle. At the same time, the attention of its supporters should be called to the issue of its labours. Have they permanently enriched the English drama? How many standard plays have they added during the last fifty years to the grand catalogue of imperishable works bequeathed to us by the sublime poets and brilliant wits of the seventeenth and eighteenth centuries, and which, despite of fashion, prejudice, ignorance, and other disadvantages, are, and will continue to be, the staple of our stage as long as there is a stage? At the present moment I can recall but two, “*London Assurance*” and “*Money*,” neither of them to be compared to the comedies already alluded to, but each possessing sufficient merit to ensure their vitality. But even the least laboured and most original of the two, “*London Assurance*,” which so strictly and successfully fulfilled the conditions of exhibiting a faithful and vivid picture of the manners of the day, was subjected last year to revision by the author previously to its revival at the “*Prince of Wales’s*.” Since its production, wrenching off door-knockers and bell-handles have ceased to be the special amusement of young men about town, and rail and steam have superseded the then existing modes of travelling. The suppression of allusions to obsolete frolics, and the alteration of dialogue referring to locomotion, were considered necessary to render the comedy more acceptable by a modern fashionable audience. This was a great mistake. It eliminated one of the most interesting features of the play; destroyed the life-like picture of society at a particular period, which had been drawn with so much skill; while it was a proof of the

consequences of the gifted author’s own theory, which would necessitate the consequent re-writing and tinkering of a good play, every twenty or thirty years, to prevent it being consigned to the tomb of all the Capulets.

(To be continued.)

## NEW PREMISES, LOMBARD-STREET, BELFAST.

Our illustration with this issue shews the new premises at the corner of Lombard-street and Rosemary-street, Belfast, which will shortly be completed for Mr. Patrick M’Guinness, the well-known guttapercha manufacturer, whose establishments are to be seen in many of the towns of Ireland.

This building has been erected from the designs of Messrs. Thomas Jackson and Son, Corn Market, Belfast. The cost will be about £3,200. The pilasters of the ground storey are of Bessbrook granite, the superstructure is of light red stone from Dundonald; the dressings, cornices, &c., being of Scrabo stone. The roof is faced with alternate bands of green and purple slates, and falls behind the cresting as a “flat” of quick inclination towards the back, covered with zinc laid with steps and rolls according to Braby’s patent.

The building is apportioned into three shops, two storeys of offices, and photographic gallery, caretakers’ apartments, &c., all provided with ample closet, lavatory, and other accommodation.

Mr. William M’Cammond, of Brookvale-terrace, Duncairn-street, is the general contractor.

Lombard-street, as the new street is called, which was made a few years ago on the site of the worst “rookeries,” off High-street, is now entirely built upon.

## COLOUR-BLINDNESS—SHIPS’ LIGHTS.

OF the many ramifications through which the Board of Trade exercises its varied and important functions, perhaps the Marine Department deserves most praise, affording a brilliant contrast to at least one of the others. Much of this is due to its deservedly popular secretary, Mr. Grey, and the great and acknowledged talent of the nautical professional adviser.

From the care that has been taken in the framing of the rule of the road at sea, it is difficult, indeed, to account for the many appalling disasters that have so recently and lamentably called for public sympathy and attention, especially when we consider the great care and patient scrutiny bestowed on the different cases by the Marine Department and its deputies. The most unobservant cannot but be struck with the many additions to “the ills that flesh is heir to” that have in the past half-century arisen from the march of intellect and science,—such, for instance, as the many phases of disease of the heart from rapid travelling, anxiety to catch trains, &c.; but one more particularly applicable to disasters at sea appears to be little known or thought of. We allude to “colour-blindness.” Without presuming on any anatomical reasons for this want of power, we may be permitted to question the wisdom of the greatly-increasing uses of tobacco, and the injurious deprivation to certain individuals of spirits,—we will avoid the unmeaning, hackneyed, and fashionable expression “alcohol” as being only a good word for rabid teetotalers and temperance lecturers, who would ride their hobby to death without reflecting that what is “one man’s flesh may be another man’s fish.”

Our Continental neighbours are rapidly

• Written expressly for *Irish Builder*, by John S. Sloane, C.E., M.R.I.A., &c.



\*\*\* NEW PREMISES, LOMBARD ST<sup>r</sup> BELFAST, FOR M<sup>r</sup> PATRICK M<sup>c</sup>GINNES. \*\*\*  
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discovering the injurious effects of tobacco on the nervous system; and there is no doubt that the optic nerve loses much of its acuteness by the narcotic poison, as well as from deprivation of the wholesome stimulant that every man in our damp climate, and particularly in marine occupations, requires, and which should be as carefully served out with regularity every day as lime juice or any other preventive of disease. Weak and watery and ignorantly-prepared infusions of tea or coffee cannot be without injurious effects on the nervous system or finer faculties, such as sight and hearing, although, perhaps, without harm to the more animal portions of our human nature. Temperance is an exercise of virtue due by all to the Creator; but the setting aside of the gifts of Providence by poor, presumptuous wretches, who think their suppositions of what is good superior to the great Power who made and gave "wine that maketh glad the heart of man," can but result in the very evils that they would try to avoid. In the case of the narcotic poison of tobacco, the Belgian Government has for a long time had some of the best medical men engaged on the subject of its effects on the optic nerve and colour blindness; and in parts of Germany smoking of tobacco by all youths under sixteen years of age has been prohibited. But without entering on the causes of the evil of imperfect sight, or any controversy as to teetotal or other crazes or death-ridden hobbies, the merest common sense will be sufficient to shew that sailors should in this case be particularly cared and legislated for; and as their mode of life precludes in a great measure the use of vegetables, and consequent want of the spirit existing in all such, an equivalent for their nervous system should be administered to them daily, whether teetotalers or not, as was done with the Irish when the fearful plague of leprosy threatened to overrun the country, from the nomadic habits of the people, immoderate use of flesh meat, and absence of wholesome vegetable food.

It is many years ago since that great philosopher Sir David Brewster called attention to the defect of vision, which he named "colour-blindness"—a defect which has been since known by other titles, such as *chromatopsidopsia*, *Daltonism*, from a chemist who in a marked degree suffered from it, and several learned names with which we will not trouble our readers. From the otherwise excellent powers of vision of those affected with this want of perception, and the difficulty experienced in arriving at any certainty as to the nature or extent of the deprivation, much perplexity has been caused in attempting to come at anything even approaching to a correct characteristic of the evil, or determination as to any rule of guidance for its cure, or the prevention of disastrous results arising from it, because the inability to distinguish colour is not the same in all, and not of the same power in all. An excellent work on the subject was published in Edinburgh about twenty-three years ago by the late Dr. George Wilson, and in it he classified the defect under several heads, such as inability to discern any colour, all vision being reduced to mere black and white, with their varieties of light and shade; want of power to distinguish the shades of composite colours, such as browns, grays, and the so-called neutral tints; and also of the primary colours—blue, red, and yellow, or between these and such tertiary colours as green, orange, brown, purple, &c. The examination of the degree of blindness does not appear to have been at any time as thorough as such a serious matter demanded, nor such as to warrant the conclusion that it was without educational or other remedy; and it was very evident that much doubt existed, especially in the case of the more undecided tints, as to what was in reality the extent of the mental or optical falsification. But sufficient was elicited, although in a limited extent, to shew that certain colours were more doubtful than others; of these, unfortunately for the rule of the road at sea, red and green are the principal, whilst yellow

gives least difficulty to those not altogether unconscious of colour. And although those who can only distinguish black from white and the degrees of monochrome shade are believed to be very few, their case is not at all so bad as it might at first appear, because different degrees of light lend to the objects certain differences of appearance that in a great measure compensate for the want of colour, when that want is accompanied by an absence of these differences. From the great preponderance of evidence that red was the colour that most characterised the want of sense in the colour blind, Dr. Wilson suggested that the defect might be named *erythric* (no red) vision; and that whilst the normal eye analyses white light into three elements, one of which is red, the eye of the colour-blind only divides it into two, neither of which belong to that colour or its complements.

Although, as we have remarked, the examination of the degrees of blindness has not been as thoroughly official as could be wished, still we have to acknowledge that comparatively considerable pains were individually taken in 1852 and 1853 by Dr. Wilson, who examined professionally 1,154 persons, male and female, of various and different professions and walks of life and came to conclusions which we endorse, and would wish to bring under the special attention of Admiral Bedford, Mr. Grey, and the other nautical advisers or authorities of the Board of Trade, namely, that all persons having charge of signals—railway officials, for instance—should be tested as to the defect; and to these we would add all those on board ships likely to be employed on the "look out," or in any capacity in which colour-blindness might (as we fear it has too often) be the means of endangering the lives of hundreds.

The more we consider this subject, and the extreme probability of the frequent mistakes of *starboard* for *port* lights, and *vice versa*, the more are we impressed with the importance of either instituting a searching test as to the fitness of vision of all sailors of whatever degree, from the admiral to the apprentice, or giving up the use of coloured lights altogether. That they are in many instances confusing and uncertain, is beyond doubt, especially in the neighbourhood of such a river or quays as Dublin, where the green lights are placed in exactly the opposite position to what they should occupy; and in the case of outcoming steamers of a dark winter evening the effect is such as to cause surprise at the many fortunate escapes that small vessels and open boats must experience from this not unusual piece of corporate blundering.

In addition to colour blindness are the evils arising from imperfect lamps, and these for some years past have (by an attempt at optical science and to introduce the dioptric system of lens in a cheap form) become bad and worthless indeed. The red light is produced by a piece of soft crown glass flashed with the poorest copper ruby, and pressed into a mould, and, although possessing enormous powers of absorption, is weak and almost incapable of refraction, along with which there is no care taken to see that the lamp is suited to the object in view or in proper focus; so that it is not only possible, but a certainty, that the crew of a large high-bowed screw or other vessel might be actually within a few yards of a small tug-boat or river steamer and not see the lights, those of the large vessel dimly shining over the smaller victim's head without attracting notice. As to mast-head lights, in their present state they are simply senseless absurdities, generally filthy, or, like their coloured neighbours, charged with that cheap, nasty, dangerous, weak, and wretched make-shift mineral oil—stuff that, however it may serve the ends of the impetuous housewife (so long as it does not burn herself and family), should be scouted from all communities on land or sea.

But if the use of coloured lights continues to be thought advisable, we would suggest the adoption of clean French plate-glass—a fountain lamp with Argand burner charged

with pale rapeseed oil, and perfectly flat disk of silvered glass (not tinfoil) as a reflector. This lamp should be hung on gimbals, as are the lamps in all the Irish lightships—the best in the world. To produce the *red* and *green* tints, cylinders of coloured glass should be securely fixed around the Argand chimney, the shade of the green glass approaching very nearly to blue, whilst that of the red should be that peculiar hue only to be obtained by the addition of gold in the manufacture in preference to silver or copper. Any attempts at lenses should be discarded as wholly inapplicable to the space at disposal or object in view, and the size of the lamp or box should be much enlarged from what it is in general at present. Every port should have a local inspector responsible for the lights of small coasting vessels, and every sea-going ship a man whose duty would embrace the maintenance and cleanliness of all connected with the safety illumination.

If, on the other hand, colour-blindness is found to be as general and serious as we fear, distinctive lights can be formed by the use of the several systems of revolution or intermittence adopted in the Irish lighthouses, or the "Fanals scintillations" or blinking lights of the French, in either of which the heat from the lamp flame could be made as in the old-fashioned smoke-jack to supply the motive power. We fear that a false economy has long stood in the way of efficient ships' lights, and that a most necessary expense is too frequently shirked or avoided, being merely for a lamp or lantern, as if a stable or outhouse lantern were the object in view for comparison; whereas no expense should be spared to procure such a means of preventing danger, and no doubt this has militated against the exercise of invention in devising ships' lights.

To one more point we will call attention. It is this, that a certain height over the sea level should be determined and insisted on at which the lanterns should be fixed, either above or below the deck, according to the size of the vessel, and by judicious arrangements made to give their light towards the surface of the water; that in the case of smaller vessels the warning from the larger should flash immediately on the eye of the man at the wheel, the master, officer in charge, or pilot; whilst by a rapid movement of the mast-head light up and down an increased means of attracting attention to the smaller vessel, and from the smaller to the larger, might be had simply, rapidly, and effectively.

## HOW CAN STREET ARCHITECTURE BE BEST IMPROVED, WITH DUE REGARD TO ECONOMY?\*

(Concluded from page 319.)

THE importance of this last point can hardly be over-estimated; for those who would deprecate any attempt to ornament our streets have at least this to say on their side, that it is better to give up any pretence of it unless we are to have as decoration something that we really care for, and that is designed and put up for love of it, and not to look "handsome." And who in the world is the happier for east ornamental brackets or keystones catalogued at 15s. 9d. a-piece, or nail-headed or toothed bricks at so much per foot run? There is something in a good moulding, for the play of light and shade which gives it effect comes from Nature herself, and varies with the varying atmosphere; and there are certain conventional architectural ornaments, chiefly Greek, the absolute purity of taste in which seems to keep them from ever getting antiquated; but these we seldom see in mechanically-produced work, and never executed with the refinement of modelling which they demand. What do we get our clumsy reminiscences of classic detail (generally), hackneyed out of all endurance by eternal repetition. The attempts which have been made to decorate the large stacks of model dwellings which are now

\* By Mr. H. H. Statham. Read at the Social Science Association Congress on the 24th ult.

becoming a feature in some of our towns, are simply deplorable in their weakness and vulgarity. In London, there are uncouth features, horrible panels with a lozenge-shaped hole in the middle, and weak-looking brackets ornamented with round holes cut on them, which have absolutely been multiplied by hundreds, not to say thousands, and put on to model dwellings to beautify them. Better the plainest and most dingy wall than this kind of trade decoration. What we want above all in the decorative treatment of town architecture, and more especially in the poorer and less inviting localities of large towns, is that some reminiscences or suggestion of the life and colour of Nature should brighten the walls. One of the most gifted of contemporary landscape-painters, who has the additional merit of being one of the most agreeably cynical of talkers, was stigmatising architecture to me as uninteresting the other day, when I asked him if there were no interest, at any rate, in architectural ornament? "Ah, yes," he said, "a great deal; it takes a landscape painter to do that!" Now, without entirely adopting this view, is there not something significant in the remark? Do we not really want, in the decoration of town architecture, and of the poorer and less inviting quarters particularly, that kind of decoration of which it might be said that something of the landscape-painter is required to design it, at least some of that direct and living study from Nature, whereby something of her life and colour and infinite form should be brought to enliven the dead walls of our streets? And that can only be accomplished in materials which allow in each instance of individual thought and individual modelling. Nothing out of a pattern-book will do it. But with materials such as those named, and others which have the same kind of capabilities, why should not the front of even our smaller street-houses present examples of artistic beauty as original and real as any of those which are put into sketch-books to be "cribbed" from, and at least of more interest than the cut-brick festoons and ornamental pepper-boxes which are the staple of decoration in the revived brick style named after Queen Anne?

What is important also to note is that a fresh return to Nature for architectural ornament, and a means of carrying it out so as to exhibit the individuality of the worker, would be the best means of escape from the mistaken effort to secure the picturesque by taking up some former fashion of picturesque building,—a mistake especially to be guarded against in the treatment of new material. For example, a very pretty illustrated book has lately been put forth by a large contractor, Mr. Lascelles, who has patented a new process of building with cement slabs on timber framing; a very good and inexpensive process for country cottages, *not* for towns. He has secured the assistance of a most talented architect, of whom I would certainly say no word of disrespect, and felicitates himself on having made cement construction picturesque, which appears to mean that he has contrived to have the slabs of cement made and tinted so as to produce what a copyright lawyer would call a "colourable imitation" of a style of old cottage, common in some parts of the country. That is not the way to treat a new material. Produce the best effect you can with it by the readiest means, but do not try to make it mimic something else which you choose to consider picturesque. The picturesque, in the ordinary sense of the word, cannot be cooked; it is, in great part, a matter of time and age, and people who admire these old buildings, and immediately wish to do something like them, quite forget, apparently, that they were all new once.

I have made concrete-building the main object of these remarks, believing that it is a process with a future before it, and that it is more likely to afford a chance for economically improving middle and lower class street-architecture than anything which we have before us at present. Of course, where cost is of less importance, the same processes

of decoration may be applied to a brick building, though I cannot help thinking they would, as a matter of appearance, blend even better with a concrete face. There is, however, a method of high-class decoration, terra-cotta modelling, which goes admirably with brickwork, and in which a frieze of figures, or other studies from nature, may be sketched out and fixed by the fire, so as to stereotype permanently the idea expressed in the clay, in all the freshness and freedom of the first impulse of designing.\* Not a few amateurs of artistic talent are devoting their attention to this art; those who succeed could hardly turn their gift to better account than by bringing such decoration to neighbourhoods where there are no means of purchasing it; a kind of charity which "blesseth him that gives and him that takes" in a way that charity expressed in coin seldom does.

An important practical point, but which has also its aesthetic bearing, in regard to concrete, is its use in roofing. One of the first desiderata towards a complete and truly architectural style of building is the obtaining of a homogeneous character in walls and roof, as was done in the case of Gothic vaulting, where the roof is only the walls closing in and meeting overhead. No great building is really monumental in style unless this homogeneous construction is attained. As to the effect upon towns of having to put a timber covering on the top of the solid walls, and then to tile or slate over that, independently of the greatly added risk from fire, let any one who has entered any of our large towns on a railway viaduct over the tops of the houses recall the indescribable effect of higgledy-piggledy and lumber produced by this mass of roofs leaning and sagging against one another, and full of places out of repair in the roof or tile covering. Compare this mass of material, and all the rottenness and dirt and decay which it inevitably contains, with the effect as it would be with nothing but smooth cemented concrete roofs, absolutely permanent and unchangeable in form, with domed or arched surfaces of monolithic character, and capable, from their smooth and hard surface, of being washed clean by every rain, and some idea may be entertained of the desirable change which would result from the adoption of such material for roofing. There is another advantage, which also has its aesthetic as well as its practical side, in the facility with which flat roofs may be made perfectly impervious to wet, in concrete and cement. Now, flat roofs in a crowded town would in some points be a great advantage; they might afford either airing-space or drying-ground for linen, or, which would be a preferable use, an opportunity for getting more air than can be got below, and an outlook beyond the confines of the street, or they might even afford opportunity for gardens and conservatories. And another advantage which has often occurred to me in such a construction is this: that a single row of (say) two-storeyed houses may be built along a new street, and that when in process of time there came a demand for more house accommodation in the neighbourhood, a second set of tenements could be built on the top of the first, what was the roof of the lower set furnishing the ground-floor of the upper set; a method which would allow of leaving proportionably wider streets, and not crowding houses together so much on the ground. But the great advantage of the concrete roof is, after all, its permanent and solid character. Nowhere is it so important to avoid anything like rickety building as in crowded towns; and nowhere, at present, is there so much of it.

In regard to this same question of rickety buildings, there is one class of erection which is a special nuisance in our towns—the shop front. It is a curious instance of the bearing of social habits upon architecture, that the

desire on the part of tradesmen to cut one another out in the way of outward show and display leads to architectural treatment equally pretentious and unstable. A wide space for a display in the window is the first desideratum: consequently the whole of the superstructure is made to stand apparently on a sheet of plate-glass, and is in reality anything but sound architectural construction, since it involves a system of balancing the building on points on which a great pressure comes, while the supports are inadequate to resist properly the disturbing effect of unequal loading, or of any slight settlement in the foundations. Architecturally speaking, however, the more prominent fault in shop architecture consists in the almost universal addition of a species of joiner's scenery planted on round the window, with a wooden cornice and other supposed ornaments which are a mere excrescence on the real building, are of no use, cost a good deal of money, and absolutely preclude anything like dignified or solid architectural effect. No street can look otherwise than flimsy or tawdry in its effect when its base is lined by these useless pieces of painted show; but it would hardly be possible to legislate against them. Their abandonment must be left to the gradual influence of public taste, coupled (let us hope) with the gradual appreciation by the trading class of the fact that genuine excellence is better than show, and pays better in every way in the long run; under which faith the sham and the show of the shop-front would no longer be required. Among other minor causes of "complaining in our streets" may be named the chimneys and the rain-spouts. The disfigurement from the chimneys arises (like so many other ugly things in architecture) almost entirely from practical deficiency in construction, leading to bad draught, or down-draught, which has to be corrected as far as possible by the addition of grotesque spouts and cowls; otherwise the chimneys in street houses are usually pretty well out of sight, and only require a simple and unpretending treatment. In regard to the rain-spouts, it is curious that though we have for generations, if not for centuries, substituted these rain-conductors for the old contrivance of open spouts carrying the water out clear of the houses in a cataract, there has never yet been any attempt at providing for them in the architectural design of street houses, so as to make them appear as necessary portions of the architectural economy of the front. They are still hung against the wall as if no one had ever thought of them until the last minute of putting the roof on, and they had to be got in somehow. While we are speaking of details, it may be observed that, on the other hand, the entrance-doors of houses offer a very suitable opportunity for a little variety in character and colour, at present totally neglected in most street buildings; all the doors are made alike in a row of houses, as if cast in a mould, though as each is really a separately executed piece of work, it ought not to be difficult to vary them. Each entrance should, as far as possible, have a character of its own, so that the tenant may recognise his home by its own features, not merely by the fact of its being No. So-and-so in the row, even if there be no other distinctive decorative treatment. This kind of variety, as well as other distinctive character arising from varied decoration, may be attained without necessarily demanding that every house should be different in height from, and quite independent of, those contiguous to it. I confess I am not in entire sympathy with the denunciations that are sometimes made against the grouping of houses in a terrace in one design. If the houses were each built separately, by separate owners, it would be natural for each man to build as he himself wished, and the resulting variety in heights and details would be the natural architectural expression of the whole under the circumstances. But if the houses of a terrace, though separate tenements, are built at the same time by the same person, it would seem to me perfectly natural that

\* The system of modelling in parget, which has been partially revived recently, allows of this advantage without the necessity of burning afterwards. The tone of the parget surface is not so rich as that of terra cotta, but the modeller has perhaps more absolute control over the effect.

he should build them with a general uniformity, and that to studiously vary the heights (for example) in each case, to make them assume the picturesque inequality of an old street in which the houses have grown up by degrees and at various periods, would be a piece of affectation. The details may and ought to be varied, as before observed, to prevent monotony and give a certain individual character to each tenement.

This latter consideration naturally suggests a word, before concluding, on the question of the relation between building legislation and architecture,—a question which is of some special interest just now, because it is pretty evident that the architecturally-minded portion of society will not put up with the average style of existing Building Acts much longer. The matter, however, so far as regards the artistic side of building, is really less complicated than some people seem to suppose. The improvements required in regard to this part of the subject are chiefly negative, and consist in letting well alone. At present there is no doubt whatever that street architecture in London and other large towns, suffers, as far as regards effect, from being too much governed. If we take a view of a picturesque street or building of old time, such as the modern architect or artist delights to sketch, and apply to it the provisions of (say) the Metropolitan Building Act, we shall find in most cases that nearly all which made the picturesque of it has disappeared. The effect of the average modern Building Act on street architecture is pretty much the same as would be the effect on the human countenance if it were decreed that all projections were to be cut off and the face kept flat. The Metropolitan Building Act actually does rule this, and though the real object is to prevent projections which may be suffered to be dangerous or injurious to the public, the regulations are often carried out in such a spirit of red tape that any one wishing to build out a projection of 2 in., in a manner perfectly harmless, but against the letter of the law, may find the prohibition enforced as rigorously as if life and limb were threatened by the irregularity. The consideration of architectural effect, in fact, does not enter into the legal or official mind. In the voluminous Blue-book of evidence taken by a Parliamentary Commission three or four years ago, when there was an attempt to get a new Building Act for London, I have not been able to find a single question out of the thousands asked, framed to elicit any opinion as to the effect of the proposed legislation on buildings architecturally. And it may be admitted that it is in no way desirable that any positive legislation on the subject should take place, and that those who build street-houses should be compelled to satisfy an official committee of taste with their designs, or should lie under the liability of having their drawings sent back to them to be made beautiful. All that we can reasonably ask of the law is, that it should leave the architect more untrammelled, and that it should forbear to place upon town architecture restrictions which must tend to rob it of half its life and character. Many things which are commonly forbidden by Building Acts are only really objectionable when they are badly carried out and of unsentimental construction: the projection of an upper story of a building, for instance, beyond the lower, often a source both of convenience and of charming effect, is only dangerous or objectionable when badly carried out in regard to construction. To ensure a character of town-building at once safe and picturesque, what is wanted is not a stringent prohibitive legislation, repressing the life and character of street-architecture; but rather a legislation which would provide that the task should be undertaken by properly competent and conscientious persons; which would put a check on the iniquities of the "jerry builder" (who is the cause of the existence of nine-tenths of every Building Act), and at the same time leave the competent and conscientious constructor room to carry out his ideas without

vexatious interference, and to indulge his fancy in regard to picturesque effect, in the confidence that such fancies would be carried out on the basis of a sound and scientific construction.

### THE NEW SWING BRIDGE OVER THE LIFFEY.

WE have already on more than one occasion given some particulars of the progress of the works in connection with the new Swing Bridge, as well as those of the remodelled Carlisle Bridge.\* Although the former bridge is not yet completed, a first trial was made on the 7th inst. of the machinery intended to work the swing resting on the central pier—the south side abutments and central pier being finished. From a description in a morning contemporary we quote some portions, premising that the first trial by steam of the iron swivel of the new bridge was made in the presence of Mr. B. B. Stoney, the engineer to the Port and Docks Board; Messrs. Griffiths, Nabholz, Galwey, and the contractor of the works, Mr. Doherty. The description in our contemporary goes on to state that the bridge will consist of two stone arches, one on each side of the river, having respectively a span of 37 ft.; and in the centre of the river, on a solid structure of masonry, rests the swing, or swivel, worked by a small engine. During traffic the swivel will rest upon the ledges of the stone arches, but at a moment's notice it can be swung up and down the river, affording a water-way 40 ft. in width at either side for the passage of vessels berthing higher up towards Carlisle Bridge. The construction of the centre pier was an arduous task. At high tide the river is at this part 34 ft. deep, and the pressure of the water on all sides upon the dam made round the space required was equivalent to 16 lbs. to the square inch. A coffer-dam was erected consisting of a single row of whole sheet piling driven in close contact, and a number of ship carpenters were employed to caulk the interstices as the water from the interior was pumped out. To give great strength to the pier on which so ponderous a structure turns, 28 iron tie-bolts, 2 in. in diameter were passed up through the centre of the granite blocks from low water-mark, and then the bed-plate and the central pivot (on which the bridge revolves) were fastened down upon the granite stones. Resting upon this pivot, having a bearing surface of only 216 square inches, this movable causeway is made of two massive wrought iron main girders, 120 ft. in length, with 64 cross girders, affording a central carriage way of 20 ft. in width. The height of the main girders is about 9 ft. in the centre of the swivel, sloping down to about 4 ft. at ends. Outside the main girder and resting on the traverse ones are footpaths, each 6 ft. wide, with newel post handrails. The engine which sets the machinery in motion is situated on the east side of the bridge when in position for traffic. It is encased in a water-tight tank, and covered with an ornamental roof—the sides in the little house being formed of glass. Of the vertical type, with two 7½-in. cylinders, 12 in. stroke, and nominally of 15 horse power, it is supplied by a 9 ft. boiler, also of the vertical pattern—the whole occupying very small space. Here the engineer has every appliance at hand for manipulating the bridge, all the levers and breaks being within reach of his arm as he stands in front of his engine. The engine acts upon the "swing" by means of a shaft and malleable cast iron pinion, with teeth 12 in. deep. This works into a circular rack over the roller path, 32 ft. in diameter, with a face of 10 in. and teeth of 4 in. pitch, and thereby brings the causeway round. Should any accident happen the engine, or should it get out of repair, the swivel can be worked readily by two men by means of a windlass, so that no delay or inconvenience could arise. There is powerful locking gear

at each end of the bridge. Frictional rollers, at each corner, fitting into metal sockets, are so arranged as to take the weight off the end of the bridge, and by lifting it about 1½ in., the rigidity necessary for cross traffic is secured.

On the day named, in the forenoon, when Mr. T. Wardle set the engine in motion, we are told that exactly in one minute the swivel was swung across the river, than within the same time it was placed in position up and down the stream to allow vessels to pass, and then again with the greatest ease made to perform complete circular revolutions both right and left. One man at the engine has complete control over the movements. The new arch and abutment on the north side of the bridge at Beresford-place are now being proceeded with, and it is anticipated that in April next the contractor will have completed his work, and that the new bridge will be open for traffic. As far as the work has been finished, Mr. W. J. Doherty, the contractor, has performed his work satisfactorily. We would again repeat our suggestion that, when finished, either the new Carlisle Bridge or the new Swing Bridge should be named after James Gandon, the architect, one of whose greatest works stands opposite, and to whom Dublin is indebted for some of her finest specimens of Classic architecture. Our greatest architect is still unmonumented in the city of his greatest triumphs, and, to our shame and to the shame of his profession let it be said, he sleeps in the grave with no slah or line to mark the spot, save the tombstone of his bosom friend, Francis Grose, the antiquary,—the architect and the antiquary being interred in the one grave in the village churchyard of Drumcondra! Cannot Dublin afford to name a new bridge or a new street in honour of James Gandon?

### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE first ordinary meeting of the session 1878-79 will take place on Monday evening next. The opening address will be delivered by Mr. Charles Barry, F.S.A., President.

Amongst the papers announced for reading during the coming session are:—

- Remains of Buildings in Midian; by Captain Burton.
- The Vaulting and Stalactites of Persia; by C. P. Clarke.
- Architectural Foliage; by J. K. Colling.
- Irish Church Architecture; by Thomas N. Deane.
- Notes on the Cistercian Abbey of St. Mary at Boyle; by R. W. Edis.
- Lighting by Electricity; by Horace Jones.
- Notes on St. Paul's Cathedral; by F. C. Penrose.
- Improvements in Glasgow and the City Improvements Acts, and the Origin of the Artisans' Dwellings Act; by Sir James Watson.

### OBITUARY.

#### MR. COCKERELL, ARCHITECT.

WE regret to have to chronicle the death of Mr. Frederick Pepys Cockerell, R.A., which took place at Paris, on the 4th inst., whither he had gone on a short visit. The deceased gentleman acted for many years as Honorary Secretary for Foreign Correspondence in the Royal Institute of British Architects. He was the son of the late well-known architect, Charles Robert Cockerell, R.A. His death at the early age of 45 will sincerely be lamented, not only by his brother professionals in the Institute, but a large circle of private friends.

#### MR. SUMMERS, SCULPTOR.

This sculptor, for some time resident in Rome, died recently at Neuilly. He left Rome in August with the intention of visiting England for the benefit of his health, but on reaching Paris was seized with a most acute attack of *goitre* in the throat. The deceased sculptor was a native of Somersetshire, where he was born in 1828. While a student of the Royal Academy he took gold and silver medals for modelling. He spent some years in Australia, to which his father had emigrated, and we are told even had a trial at the gold diggings, but his claim proving unprofitable he returned to Melbourne, where he resumed his art studies.

\* Elevations of the two bridges were given with our issue for May 15th, 1877.

## ADVERSARIA HIBERNICA,

## LITERARY AND TECHNICAL.

Was the three-legged Irish stool or *creepy* the basis or rudiment of our modern chair? Did the form or lough stool succeed the *creepy*, or was the latter a handy improvement on the former? Was the arm-chair the forerunner of the ordinary chair, or *vice versa*? Who will answer these questions? Stone chairs and wooden chairs and seats are perhaps as old as history itself; for when man needed to rest he found something to sit upon, and, failing in finding some elevation, he sat upon the dead level of the earth's surface. Sitting with one's legs at right angles to the rest of the body is, perhaps, after all, the most refreshing method of rest. To be sure, you have the higher to rise when you need to stand up, and you are obliged to curl your legs under you in the operation. Sitting with outstretched legs upon the summer grass in the meadow you certainly get a good rest, and enjoy amazingly your pic-nic; and the green turf around makes an admirable table-cloth, which you need not fear to stain. Sitting upon a parlour or drawing or sitting-room chair with your feet resting upon the floor, the whole weight of your body is not on the chair, and you are not entirely at rest. It is well, perhaps, for the credit of some of our furniture makers, that the whole weight of men and women's bodies are not generally pressing upon the framework of chairs, as serious accidents might be of more constant occurrence, seeing how flimsily-constructed are most of our present-day chairs.

Returning to the subject of the three-legged stool or *creepy*—which appears to be the most primitive form of chair or seat of timber construction in the world,—it is needless to ask who was the first maker. In the eighth number of the *Dublin Penny Journal* an illustration is given of an "Ancient Irish Chair," and it is accompanied with a description and some reflections in general. The sketch and short article were from the pen of our late able antiquary, George Petrie. The chair in question was an ancient oak one, and a few years before 1832 it was to be seen in the little decayed village of Drumcliffe, in the County of Sligo—a place of importance in ancient times, and which, according to tradition, could at one period boast of several magnificent stone churches and no less than fifteen hundred houses of oak. The Irish chair under notice was on the three-legged principle, but it was an arm-chair with a back at the same time. To use the words of Dr. Petrie, who sat in the chair once, and found it steady and pleasant:—"Observe, reader, with what ingenuity and taste the artist bounded at once from the original form of seat—the three-legged stool—to the greatest effort of modern skill in the procurement of comfort—the easy arm-chair, retaining much of the simplicity of the one with the complication and convenience of the other." The Drumcliffe arm-chair perished in a severe winter, having been used for firing by the humble owner, who deemed it a useless article of luxury.

We had an Irish author once who wrote an interesting work in his day, entitled "The Adventures of a Guinea," and we have no doubt that some chairs and their vicissitudes would form an interesting subject to hang many facts and reflections upon. The Irish *creepy*, too, in some families has witnessed many changes, travels, and tumblings about, of legs knocked out and hammered in again by pounding upon the hearthstone or kerbstone outside the door. The misfortune of the Irish *creepy* consists in the fact that the longer it lives the shorter it generally grows; for if one of the legs breaks off in the seat, it is hammered in again, rendering the application of the saw or the fire to the other two legs to bring them to the same length. This, however, is always done, and it is not uncommon to witness Irish *creepies* with their seats on an inclined plane.

The grand virtue of the *creepy* consists (unlike the four-legged chair) in always finding

its level, whether its three legs are of the same length or otherwise. There is no rocking about or unevenness. When you sit down upon the *creepy* you are as safe as if you stood or sat upon *terra firma*. A stool with only one leg would no doubt be considered an absurdity by many towns and city folk, who are ignorant of the fact that one-legged stools, or *creepies*, are in Ireland an old institution, but are generally confined to milk men and milk maids for field purposes. The round seat and the one leg in the centre is certainly not suggestive of an even balance, but constant use makes the sitting milkers feel quite at ease. The one-legged *creepy*, when used in the meadow or field, is generally placed by the sitter in a slanting position, and the leg enters or is pushed into the ground. With the milk pail or can between the knees, and a lean-to towards the cow, the *mourneen* is milked with ease, and the maid or man, if in good humour, generally accompanies their hand labour by a cheery song. But woe is me if, before the "strippings" are taken, the unlucky beast kicks the pail over. Ten chances to one, if this should happen, and the milk belongs to the masculine gender, the one-legged *creepy* is used with a vengeance on the poor *mourneen's* ribs. Irish folk generally need scarcely be reminded of the proverb of the cow that gives the pail of milk and then spills it, by kicking it over with her hoof. Having got from *creepies* to chairs, and from chairs to cows, we think it is time to move the writer from the chair, and pass on to another subject.

There are good reasons for believing that the practice of smoking existed in Ireland long centuries before the introduction of the Virginia, which is attributed to Sir Walter Raleigh. During the last couple of centuries the Irish have become inveterate smokers, as fond of a pipe as a dram. Considerable travel, however, has convinced us that the people of some continental cities are as great smokers as the Irish. Frenchmen, Germans, and Poles, are constantly puffing cigars or cigarettes, and those in receipt of good salaries or wages consume daily three times the quantity of tobacco as the general run of Irishmen. Artisans in this country are often, comparatively speaking, heavy smokers; and agricultural labourers cannot do without their whiff several times a day. The pigtail and hard cake tobacco used by labourers is a slow-consuming article compared with the cut tobacco mostly used by clerks and artisans. The labouring class cannot afford to smoke an ounce or a half an ounce a-day of cut tobacco, so the clay pipe, when once filled with the hard stuff, will often serve for two or three smokes. Pipes of bronze, as well as thick-shanked and thick-bowled clay pipes, are often found in Irish tumuli and excavations. What are termed "Dane's pipes" are unearthed often, but their peculiar formation is not common to Ireland alone, for we have often met with them in excavations in England, and in London we have also met with several of them in the taking down of the walls of old houses erected in the reign of Aune and the first George. It would be interesting to know what weed or plant was used for smoking purposes in Ireland or in the sister kingdom before the introduction of tobacco. What the late George Petrie termed a curious bathos in sculpture occurs on the monument of Donogh O'Brien, King of Thomond, who was killed in 1267, and who is interred in the Abbey of Corcumroe, in the County Clare, of which his family were the founders. The king is represented in the usual recumbent posture with the short pipe or Irish *dhudeen* in his mouth. This ancient Irish sculpture certainly proves the antiquity of smoking, though the ingredient was not tobacco. A warrior is often represented with a sword in his hand, and a patriot and a statesman with a scroll. We do not see why the Irish monarch, if he loved his *dhudeen* in life, should be debarred from having it in effigy after his death. If we

knew what was once contained in his pipe when he walked the world, we might be afforded very good reason in defence of smoking as an ancient custom, and in support of the representation that put the *dhudeen* in the mouth of the monarch. Smoking tobacco may not be a very wise, as it is certainly not a very economical habit. It has often been used by the Irish labourer to ward off the attacks of hunger, and millions of times a smoke by members of the same class has been used as a substitute for a meal. Even in the building trade "a smoke and a look at the building" has often been jokingly applied to a bricklayer to signify his dinner! When the workman did not go home or brought no dinner with him, he generally left the scaffolding along with the other hands, walked out in the front of the structure when below, looked up at the progress of his handiwork, filled his pipe and took a smoke. We opine other operatives besides the bricklayer did the same, and that the term of "a bricklayer's dinner" would need emendation. We will not enter at present into the sanitary question of smoking, save to say that we think smoking in excess is injurious to the constitution; and that we think a healthy and well-fed agricultural labourer suffers less from the effects of smoking in excess than the town and closely beamed-in workshop or chamber artisan.

Badly-fed workmen should not smoke—that is, men who are unable to provide sufficient nourishing food for themselves or their families. It is undeniable that the practice of smoking murders much valuable time; and as time is money, there is a double expenditure, counting the cost of the tobacco and the loss of time. Then there is to be added fancy meerschaums, pouches, matches, and other etceteras. Verily, to smoke a pipe or to puff cigars daily is expensive and idle work. It may be very good for a number of trades, but we think it is very bad for the teeth and digestion. We owe no tobacco-nists a grudge, and we are partial sinners ourselves, having often indulged in a whiff to murder time, if to do no worse. If anyone, however, would ask us for our conscientious opinion whether they ought or ought not to smoke, our courteously brief and only reply would be—Don't!

The name of Sir Walter Raleigh is associated with the introduction of the potato as well as the tobacco plant. Previous to about 1728, potatoes, though cultivated in the gardens of Scotland, were not till the date mentioned cultivated in the open fields. As early as 1600 it was cultivated in English gardens by the nobility and gentry, and about 1634 it was first planted in Lancashire in the fields. Samuel McSkimmin, the author of a "History of Carrickfergus," had a manuscript in his possession, written between the years 1670 and 1679, which treated largely of agricultural produce of every kind, but potatoes were only once mentioned in it, and that in 1676, when they sold at the high rate of 1s. 8d. per bushel. Very old people informed the same writer (McSkimmin) that few potatoes were formerly used in Ireland till after harvest, except a small quantity as a treat for their Halloween supper. Flowery "murphies" with noggins of sweet or butter milk were not then known, nor did the Irish peasant, as he did unfortunately at a later date, place his sole dependence on the rather treacherous root. From being eaten with butter the custom soon advanced in Ireland, through hard times, to eat them with buttermilk and afterwards with salt, with a wash down of nothing richer than water. In the gardeners' calendar of a Dublin almanac for the year 1706, under the heading of November, you are told to "take up your potatoes for winter," a proof perhaps that this was deemed the proper season for their preservation. In Ireland potatoes were, it appears, after their first introduction, a long time before they came into general cultivation by the farmer. Many instances have been given in this century of the great produce from one potato.

McSkimmin mentions that in 1787, the produce of one potato in a garden in Lurgan amounted to 779, and they weighed upwards of 200 lbs. In 1810 six men near Antrim raised 360 bushels of potatoes out of 3,228 square yards of ground, and in 1832 a man at Ballaghty, County Derry, in the space of eight hours with two gatherers raised 120 bushels. The story of the Irish Famine, 1845-7 is the sad story of the failure of the Irish potato. Since that dear period of starvation and emigration, the potato has gone down in the estimation of the people, though it is still to a large extent depended upon. If the Irish had kept closer to their corn produce and live stock, and kept the potato at a civil distance, the country would have long since held her own in many interests. H.

#### ALLEGED VANDALISM AT MONASTERBOICE.

At a recent meeting of the board of gnardians of Drogheda Union, the clerk informed the board that the *Freeman's Journal* had drawn public attention to the fact that one of the famous crosses at Monasterboice had been recently interfered with, and most wantonly damaged. No report of the matter had been sent in by the caretaker, who was appointed by that board.

Mr. Donegan (the guardian residing near the place) said the part damaged was an ornamental portion at the bottom of the cross.

Mr. Coddington stated that he was in Monasterboice graveyard quite recently, and saw the cross reported to be damaged. A small chip was taken off one of the ornaments—he forgot what name to call it by. It was taken off by a man, as if it was for a keepsake. You would, in fact, have to look very closely at it in order to discover it.

The clerk again remarked that the *Freeman* stated that it was one of the legs of the figure representing the Redeemer on the Cross that was broken away. The *Freeman* also contained a letter describing the injury from an eye-witness.

Mr. Coddington replied that the thing was magnified. If a thing was only the size of a wafer it would be magnified into the size of the moon!!

Mr. L. Moore asked Mr. Coddington if he knew the name of the man who did the injury?

Mr. Coddington replied that he did not. The piece damaged was only the size of his finger nail, and it was, perhaps, taken as a keepsake—a thing he might do himself in another place.

Alderman Daly said that a short time ago a number of people came down from Dublin here with the members of the British Association. These Dublin people did not belong to that body, but they came down here on a day's "spree." It was not to go forth that Dr. Wilde or any of the learned men who were with him on that occasion did this irreparable and reproachful injury.

Mr. Mangan observed it would be well to find out the parties, and prosecute them for their outrageous conduct.

#### STAINED GLASS.

THE large stained-glass window which has been erected in St. Michael's Parish Church, Limerick, is the gift of Messrs. James Spaight, J.P., Joseph Matterson, J.P., William Matterson (of London), Richard Norris Russell (Plassy), and Messrs. J. N. Russell and Sons. The subjects of the window are designed to illustrate the Parables, the five lights composing the lower portion being divided by beautiful canopied work, and, taken in order from the left, the Parables are:—"The Prodigal Son," "The Pharisee and Publican," "The Talents," "The Labourers in the Vineyard," and "The Pearl of Great Price." Returning to the left, the subjects of the lower portion are:—"The Sower," "The Good Samaritan,"

"The Wise and Foolish Virgins," "The Unmerciful Servant," and "The Rich Man and Lazarus." The traceried head is filled with rich coloured glass with scrolls and flowers, and in the centre division is "Abraham's Sacrifice," and on either side a figure of "Moses with the Tables of the Law" and "Brazen Serpent." The emblems of the Four Evangelists are represented, viz.:—The Angels of St. Matthew, the winged Lion of St. Mark, the winged Bull of St. Luke, and the Eagle of St. John, all combining to form without exception one of the most pleasing and artistic windows in the south of Ireland. "One is struck at once (says the *Chronicle*) on entering the church by the pleasing harmony of the colors, and a closer examination displays the careful treatment of every figure, the correctness of the drawing and the care that has been taken to make each picture a perfect exposition of the portion of Scripture represented. We have been informed that this is only the forerunner of other stained-glass windows in this church, where so much has been done by the well-beloved rector, the Rev. Benjamin Jacob, to make what was once a disgrace to our city one of the handsomest edifices in the diocese. We cannot close without mentioning that the new side doors, railings, &c., now being erected, are at the sole cost of Robert Hunt, Esq., J.P. The above works have been carried out from the designs and under the superintendence of Messrs. Joseph Fogerty and Son, architects, Limerick, on whom they reflect great credit."

#### THE ROYAL IRISH ACADEMY.

THERE was a general meeting of the Academy, on Monday evening,

Sir ROBERT KANE, President, in the chair.

Dr. Ball, one of the honorary secretaries, read the minutes of last meeting.

Professor Hennessy read a paper—"On the Precessional Motion of the Earth considered as a solid shell filled with liquid, devoid of viscosity and friction." The subject of the earth's structure had occupied his attention for many years, and he had already written some papers on it in the philosophical transactions of the Royal Society, and also some notes transmitted to the Academy of Sciences. The subject was interesting to every intelligent member of the population of the planet on which they lived. It followed from mechanical reasoning that the nature of the earth's precessional motion depended on the figure and structure of the earth. If its structure was partly solid and partly liquid, the precession would be entirely different from what it would be if it were entirely solid. Several years ago Professor Hopkins, of Cambridge, discovered that the precession of a solid shell filled with liquid without viscosity or friction would be the same as that of a completely solid spheroid of the same ellipticity. Newton established that, if the earth were liquid, it would be spheroidal. Clairant afterwards established that if the earth contained heterogeneous matter of various densities, it would have a spheroidal form also. The problem in question was one which had been attacked by the most eminent mathematicians. All had assumed that the mass of the earth was originally liquid, and had afterwards become either partly or wholly solid. They also supposed that the particles of liquid underwent no change of position in passing to that form from the solid. Ho (Professor Hennessy) had concluded that the hypothesis from which the figure of the earth was to be deduced was that it was originally fluid, and that as it solidified the particles changed their position in conformity with known mechanical and physical laws. Admitting that the ellipticity of the interior surface of the crust was the same as that of the exterior, still he concluded that the interior was most probably filled with matter in a liquid state, and possessed of viscosity and friction. This view was corroborated by

the fact that the outpourings of all existing volcanoes were in the main liquid of a highly viscid character. The viscosity of the lava of Vesuvius had been frequently referred to by Sir William Hamilton, who was ambassador at Naples. The views which he (Professor Hennessy) now submitted had been confirmed by the great Italian mathematician Plana, and had been referred to by Humboldt in the last volume of "Cosmos."

The Rev. Professor Jellett, F.T.C., said they were not acquainted with any such thing as a fluid devoid of viscosity and friction; and he regarded Professor Hopkins's conclusions as an elegant piece of mathematics deduced from a hypothesis which was certainly not accurately true, and probably not approximately so. That the earth contained a core possessed of friction and viscosity he thought there could be no doubt; and so far as Professor Hennessy's conclusions rested on the assumed viscosity and frictional power of the interior of the earth, they must be held to be quite true. He moved that the paper be referred to council for publication.

Professor O'Reilly, in seconding the motion, said the communication was of great interest to him from a geological point of view. He did not, however, see why Professor Hennessy should have stopped at the assumption of liquidity of the interior of the earth without going back to that gaseous condition asserted by astronomers. Of the interior of the earth we know literally nothing whatever. The theory of the production of volcanic rocks had of late undergone great change, especially in Germany, in consequence of observations as to the changes rocks and even metals underwent under conditions of extreme pressure.

Professor Galloway and Professor Jellett having made some further observations on the paper, it was referred to council for publication.

Dr. Ball, on the part of Professor Leith Adams, exhibited drawings of portions of the Irish elk.

Dr. Ball, on behalf of Mr. Philip Burton, read a paper "On the Supernumerary Rings of the Rainbow;" and, for the Rev. James Pearson, one "On the Computation of Tides at Fleetwood, and discussion of corresponding phenomena in different places."

Dr. Ball announced that the Royal Society had presented the Academy with a copy, in bronze, of the Davy gold medal presented to Professor Bunsen, of Heidelberg, and Professor Kerschhoff, of Berlin, for their discovery in physical science.

Among other donations were—E. P. Shirley's "History of the County Monaghan;" Rev. F. O'Rourke, D.D., Ballysodare and Kilvarnet, Co. Sligo—the O'Connell Centenary Record; John O'Hart's "Irish Pedigrees;" Major General Lane Fox—"The Arts of the Andamase and Nicobarese;" L. P. Matton—"Quadrature du cercle son existence prouvée;" Rev. Alex. Leeper, D.D.—"Historical Handbook to the Monuments, Inscriptions, &c., of St. Patrick's, Dublin;" Rev. C. MacCreedy—fifty-eight pamphlets; Professor H. Hennessy, F.R.S.—"The Council Book of the Corporation of Cork from 1609-43 and 1690-1800;" "The Council Book of the Corporation of Youghal, 1610-59, 1666-87, and 1696-1800."

The president said the council had to announce with great regret the resignation of their treasurer, Mr. John Ribton Garstin, who had conferred the very greatest benefits on the Academy by his zeal, accuracy, and ability with which he filled that office, which was very closely connected with the administration of the Academy. It would be their duty at next meeting to fill this office.

A CAUTION.—Professor Reynolds, T.C.D., has analysed a piece (6 in. by 6 in.) of glazed material taken from the lining of a perambulator, and found it to contain an amount of lead corresponding to 54.5 grs. of the carbonate, or "white lead." "Is it absolutely necessary (asks our contemporary the *Medical Press*) that white lead should be used in the manufacture of linings?"

## THE RIVER LAGAN AND HARBOUR OF BELFAST.\*

ABOUT two and a-half centuries back, the harbour of Belfast was but an insignificant creek of the Lagan, and was under no regular form of government. In 1785 the tide flowed up the river a short distance above the town, but ebbed almost entirely out, leaving a narrow serpentine channel of fresh water, which flowed through extensive flat sands. The quays amounted to about 1,780 lineal feet, one-half of which could only be counted upon as suitable for vessels of large burthen.

In 1837 an act was obtained, embracing the following works, which were ordered to be carried out:—1st. The construction of a new navigable channel through the slob ground, from the Dunbar Dock entrance to a point in the old channel course nearly opposite Thompson's Tower, thereby cutting away the first bend of the old channel next the town. 2nd. The purchase of all the existing docks and quays, which were owned by private individuals, and the widening and improving of the same. 3rd. The formation of a second straight cutting or channel through "the Flats," in continuation of the first cut to the buoy of the Flats, where deep water would be secured. The first section of the new channel, from the Dunbar Dock to Thompson's Tower, was completed and opened for traffic in the year 1841; the cutting was about 3,000 ft. long, 370 ft. broad, and 12 ft. deep at low water. The soil excavated from this work was used in the formation of the side embankments, and in making up the Queen's Island, a large portion of which had been utilised for ship-building purposes. Between the years 1846 and 1849, the second cut of the new channel was executed. This cutting through "the Flats," between the Twin Islands formed by the excavated material from the bed of the cut, was about 3,300 ft. long, the width at the top being about 450 ft., and the depth about 23 ft. at high water.

A commencement was made in the year 1858 towards the regular deepening of the navigable channel. So great was the improvement effected by dredging between the years 1858 and 1861, that vessels of 22½ ft. draught were enabled to reach the quays at spring tides without lightening their burthen. Dredging operations had been carried on from that date to the present time. The present course of the navigable channel at Belfast was straight for a distance of 2 miles northwards from the Clarendon dock entrance, and it had an average depth below low water of about 12 ft. From the north end of the Twin Islands it was serpentine for about 1 mile towards the pool of Garmoyle, which had a depth of 20 ft. at low water. From this place it followed for another mile a straight course through Whitehouse roads, and curved again towards the north-east across a bar about 4,000 ft. in length, with 11 ft. deep of water over it opposite the Oyster Bank, into the open lough.

The author gave a description of the shipping accommodation at present available at the port. Rather more than one-half of the quays was of stonework, and the remainder of timber. On the County Down side of the harbour the subsoil was chiefly sand and stiff red clay; on the County Antrim side it was principally soft blue clay, for a depth of upwards of 66 ft., before a firm stratum of sand or clay was reached. Between the years 1844 and 1847, when the construction of new quays was undertaken on both sides of the river northwards of the Queen's Bridge, from the designs of Messrs. Walker and Burges, a timber wharf facing was adopted, being tied back by iron rods and stay piles. The cost was comparatively small, being only about £12 12s. per lineal foot of wharf, which included "filling," to the extent of about 170 cubic yards to each lineal foot. In the year 1864 the dock accommodation was extended to provide a greater depth of water, and the

new works were executed in stone. The depth of water for which provision was made was, on the County Down side, at Abercorn Basin, 10 ft. at average low water; and, on the County Antrim side, 15 ft. at low tide. The paper then described the construction of the walls and of the foundations of the Abercorn Basin, and of the Dufferin and Spencer Docks; also the settlement of the walls of the docks, consequent, in the author's opinion, on the weakness of the piling timber, the insufficient depth of footings, and the unsuitable material for filling in behind the walls. The general character of the most recent practice was exemplified by the Queen's-quay, which was constructed in 1877. The average rise of the tides at Belfast Harbour above Ordnance datum was 8 ft. 10 in. at spring tides, and 7 ft. 4 in. at neap tides. The highest spring tide on record was 17 ft. 2 in. above Ordnance datum. The revenue of the Port in 1786 was £1,558; that of 1876 was £99,533 6s. The tonnage in 1786 was 38,421, and in 1876 it reached 1,497,585 tons.

## THE NEW STOCK EXCHANGE.

THIS building, from the designs of Messrs. Miller and Symes, of Great Brunswick-street, is just completed. It stands on the east side of Anglesea-street, and in close proximity to College-green and the principal banking establishments of the city. The material for exterior is white firebrick, with dressings of grey granite. It presents a frontage to Anglesea-street of about 100 ft., in which are three entrances—one leading to the suites of offices, which occupy a large portion of the building; a second entrance affords access to store-rooms beneath; whilst a third one may be styled the principal one. A stone staircase, 12 ft. wide, leads to the principal room, which is 48 ft. long by 38 ft. broad. The ceiling is composed of pitch pine varnished. The walls are panelled in oak, inlaid with walnut. Hot-water pipes have been placed in convenient positions throughout the entire building. The contractor was Mr. George Moyers, Richmond-street.

## THE DRAINAGE OF MARYBOROUGH.

IT appears that the drainage works of Maryborough are defective, and so unsatisfactory as to give rise to several complaints. When the Town Commissioners had sanitary matters under their control they did little; but since the guardians have been empowered by statute to carry out sanitary improvements, they have carried out a system of drainage which is said to be a failure. Some of the townfolk are wishing they were again, in sanitary matters, under the commissioners instead of the guardians, now that expenses are increasing and have to be paid. The *Leinster Express* has no very cheering words to say on the present position of the town or the outlook. It says:—

"The sewerage works have now been completed, and probably the taxpayers would submit with resignation to defray the expense, if they had reason to believe their money has been expended on a real improvement. But it is significant that we have heard more complaints regarding the sewerage of the town since the new drainage has been finished than were ever before made public. We pointed out, when the plan was under discussion, that there was a grave objection to the proposal to discharge the sewage into the river Triogue. It is true that the outfall of the town sewers has been into that watercourse from time immemorial. But it is not improbable that, previous to the completion of the new plan of sewerage, no nuisance was caused by the outfall being into the river, for the very excellent reason that the sewers were so defective there was but little discharge from them. One of the results of the new plan, there is every reason to believe, has been that the river is now polluted to a greater extent than it was in former times. This is a serious objection to the work for which the Maryborough ratepayers are asked to pay, but it is apprehended that it is not the only defect. At the meeting of the Maryborough Town Commissioners, on Monday, the chairman stated he had reason to believe the sewers were not properly laid in some

places, and another commissioner indicated the situation of such a defect as the chairman alluded to. If it should turn out there are numerous defects of this kind in the sewers, the drainage, instead of being a sanitary measure, is a positive danger to public health."

In referring to the report of the proceedings of the Town Commissioners, the speakers in general appear to us to have very crude and odd ideas on the subject of drainage and sewer construction.

## THE ROYAL DUBLIN SOCIETY.

A STATED meeting of this society was held yesterday. Sir George Hodson, Bart., occupied the chair. The minutes of previous meetings on 6th June and 31st October were read by the registrar (Mr. R. J. Moss, F.C.S.), and confirmed.

A report from council was read by Dr. G. J. Stoney. It dealt chiefly with the negotiations which have been so long pending between the Science and Art Department and the Society, and which have, by their delay, caused much embarrassment in the working of the several branches of the Royal Dublin Society. We must reserve until our next issue any further remarks that may appear necessary.

## TREE-PLANTING IN THE CITY.

ON Tuesday operations were commenced in Upper Sackville-street for the purpose of making a third experiment in tree-planting. A small regiment of navvies, furnished with new picks, shovels, and spades, branded "Dublin Corporation," are busily engaged in opening trenches 9 ft. square, and 6 ft. deep. Two of these excavations were no sooner complete than they were filled up, and others opened. Speed the work!

## LAW.

### A "LATERAL SUPPORT" CASE.

IN the City Record Court this week a case was heard in which a man named Cullen sued the governors of the Adelaide Hospital, Peter-street, for £50 as damages alleged to have been sustained to his premises by the taking down of the house 12 Wood-street, in order to extend the premises of defendants. The plaintiff's case was that, although defendants were requested to shore up his house to prevent it collapsing, they neglected to do so, and also refused to allow him to do so, on the ground that the work of the hospital extension would be impeded. The result was that the house became uninhabitable and the tenants were obliged to leave it.

On the part of the defendants it was submitted that plaintiff was not entitled to the support he claimed, that defendants were not bound to shore up the house; that the house in question was a very old one, and that any damage it had sustained was by reason of its age and construction, and want of repair.

After a lengthened hearing,

The Recorder ruled that the house removed had been erected subsequent to plaintiff's premises, and that it could not be held that it derived any lateral support from it. He accordingly dismissed the case, but suggested the propriety of allowing the plaintiff some compensation—say £20.

A member of the Hospital Committee present said he would bring his lordship's decision before the committee, but could not promise that they would agree to it.

We apprehend the matter will not be allowed to rest here. It is matter of regret that such a trivial case should have occupied the court for nearly two days, although his lordship did his best in urging the lawyers to be brief, in view of the courthouse being crowded with suitors waiting to have their cases heard.

\* By Mr. T. R. Salmond. Read at Institution of Civil Engineers (London), on Tuesday, 12th inst.

## THE WORKING OF THE SANITARY ACT IN DUBLIN.

Two questions concerning the course of procedure in prosecutions under the recent Public Health (Ireland) Act came before the police magistrate on Wednesday. In the first a woman named Catherine Byrne, living at 7 Upper Mercer-street, was summoned for having her premises in an unsanitary state. It appeared that the officer, being unable to discover the owner, was obliged to serve the summons upon a person who was cleaning the yard, and the question arose, Was it necessary that the owner should be personally served? Mr. MacSheehy, who prosecuted for the Corporation, submitted that under the 267th section it was provided that the service should be in the old way—either by delivery at the residence of the person to whom the notice was addressed, or by delivering it to some person on the premises. Mr. Woodlock held that, though notices might very properly be served by simply leaving them at the premises, he was bound by the 249th section of the new act to hold that penalties were to be recovered in the mode set out by the Summary Jurisdiction Act; and he thought the summons should be served upon the owner of the premises, so as to ensure that he would have an opportunity of making his defence. The summons was withdrawn. In the second case a similar summons was brought against John King, in respect of his premises, 56 Charlemont-street, which, it was alleged, he had allowed to remain in an unsanitary state after he had been served with notice by the sanitary officer. Under the old sanitary act it was necessary to proceed to obtain a magistrate's order for the abatement of the nuisance before proceeding to recover a penalty. Under the new act the penalty can be proceeded for upon disobedience of notice from the sanitary officer. Mr. Woodlock imposed a fine of 20s. and 2s. costs, and made an order to abate the nuisance within seven days, with a continuing penalty for further disobedience. Two other parties were fined in same amounts, and like orders made.

## TIMBER CLIPPINGS.

A curious custom has this year (says the Gothenburg correspondent of the *Timber Trades' Journal*) been observed on the Kymmene Elf in Finland. It is the custom for the Flottingsbolag (Floating Company) on that river to give an entertainment to all its employees when one million pieces of timber, or above, are floated during the course of the season. This year over one million pieces have been dealt with, and the "millionsfest" has held accordingly on the 13th October. Although prices are most irregular, a very fair red 3 by 9 deal can be bought at £7 15 to £8 free on board in the south of Sweden, and good quality 2½ by 7 battens at £6 to £6 10s. Less than these low quotations has been taken for substantial orders.

Dry rot (says the *Kilburn Times*) has appeared in the new part of the parish church at Willesden. When it was discovered by the churchwardens the flooring underwent a careful examination, and in one part a fungus, about 2 ft. by 3 ft., was found. The flooring was so affected that it threatened the safety of the organ gallery, and, to avoid mischief in this quarter, it has been found necessary to substitute iron pillars for the wooden supports.

In their circular for present month Messrs Farnworth and Jardine, of Liverpool, state that the import has been small during the month, remarkably so of Quebec woods, and the aggregate import of the year up to this time has been 58 per cent. less than last year; the consumption has been on a very reduced scale. Business continues quiet, with little or no alteration in prices, which are uniformly low. For yellow pine the demand continues moderate, and prices rule low. Red pine, unless of good quality and large average size, is almost unsaleable. The deliveries of oak for the month have not been one quarter of the corresponding month in 1877; the quantity of prime quality in the market is, however, small. Elm has been more inquired for, and for good fresh parcels higher prices have been paid. For good ash also there has been some inquiry, though the demand is but limited. Pine deals of good specification are in fair demand, but odd

sizes, of which the late arrivals have largely consisted, are difficult to sell. There has been a falling off in the import of spruce deals, and the consumption has been fairly sustained; there appears no indication of any advance in prices. Pine deals are getting lower in stock, but the demand continues limited, and prices are very low. Birch is low in stock, and the late auction sales show a marked improvement in prices, which, however, for the moment, has somewhat checked the demand. There have been no arrivals of pitch pine during the past month. The market is very quiet, and unless the demand considerably increases the market will be fully supplied for several months to come; prices continue ruinously low, and generally below the cost of importation. In red deals a few cargo sales have taken place at very low prices; there has been a fair consumption during the month, but the stock is somewhat heavy, although less than last year. Flooring boards have arrived very freely, and the bulk have gone into the yard, thus swelling the stock to very large dimensions, the consumption having been small.

## TO CORRESPONDENTS.

THE "TENDER" SUBJECT.—There are some people in our midst very thin-skinned. "There are builders and builders," writes "A Contractor." Yes, we know there are; and there are also contractors who are not builders, to whom the subject of tenders is a very tender subject to touch upon. Our correspondent had better not tempt us to unravel a tangled skein.

PORTOBELLO.—He raised himself from the ranks, and like many other successful employers, commenced his career with the jack-plane. Whether he was a clever workman or not, it is not our business to inquire; he was undoubtedly a shrewd and a sober man.

A CITIZEN.—The matter is alluded to in present issue. The experiment is worth trying.

C. E.—The principle is not new, but it is not the least valuable on that account. With care and attention it may always be successfully applied in suitable situations.

AN ARTISAN.—A trade society should not be a political organisation. It is, we think, sufficient for workmen to hold whatever political views they like out of their societies. Mere politics will not lift the workman much, but the co-operative principle and the spread of technical knowledge will.

W. C.—The building has been already illustrated in a contemporary.

SITES FOR PUBLIC STATUES.—The streets of Dublin, as a whole, do not at first sight appear to offer many available sites for public statues or monuments; yet, apart from the enclosures of the squares, there are some few sites in the city worthy of being utilised. Sackville-street and Dame-street have still room for more statues, and Thomas-street, James-street, and the south side of the Liffey could afford available spaces. Palace-row, at the head of Rutland-square, would be a good site for a statue to Charlemont, of Volunteer memory; and certainly ample space could be found near St. Patrick's Cathedral for a public monument or statue to Swift. Beresford-place, at the Custom House, within the chains, would make admirable sites for two or three public statues; and we opine it would be a very fit spot for the erection of a statue to our greatest city architect in the past, James Gandon, who still remains with an un-inscribed tomb, and otherwise unmonumented in a city he did so much to adorn.

RECEIVED.—R. H. A.—An Architect (London).—P. B.—R. D. S.—Tolka (the road in question through Brunncondra-hill) was made in the days of the Irish Parliament, and we believe through the instrumentality and partly under the inspection of Mr. Foster, the Speaker of the House of Commons.—O. B.—J. R.—T. C.—M. G.—R. W., &c.

## HOME AND FOREIGN NOTES.

THE ROYAL ACADEMY.—At a general meeting of the Academicians on Wednesday evening, Mr. Frederick Leighton, R.A., was elected President.

WIGHAM'S FOG SIGNAL.—We understand that Messrs. Edmundson and Co. have received orders to supply one of Wigham's Irish Siren Fog Signals for the use of the Japanese Government at Yokohama.

ANOTHER PARIS EXHIBITION.—An International Exhibition of "Sciences applied to Industry" will be held in Paris next year. It will be opened in July and will close in November. The Palais de l'Industrie, in the Champs Elysées, has been placed at the disposal of the promoters of this undertaking by the French Government.

THE DRAINAGE OF NAAS.—At a meeting of the guardians, a letter was read from Mr. De Borgh, J.P., Oldtown, calling on the guardians to take immediate steps to have the nuisance which he complained of remedied—namely, the sewage of the town of Naas passing into a stream which supplied an ornamental pond in his demesne and close to his residence. A committee was appointed to take immediate steps as to the general plans for the drainage of Naas, and the outfall therefrom.

A SUIT AT LAW!—A chancery suit of Kingston v Eyre was brought under the notice of the Lord Chancellor on Thursday by Sergeant Sherlock, who mentioned that the original bill had been filed in the court thirty years ago; that there was never a case like it since that of Jarndyce v Jarndyce; that there was one witness of the name of Burke, who had been under cross-examination in the late

Master Lytton's office for four years and a-half; and that the speech of one counsel lasted for nine months!!

IRISH COACH BUILDING.—There is at present on view (says a contemporary) at Messrs. O'Neill and Sons' establishment, North Strand, a gentleman's private omnibus, to seat six or eight, combining some novel improvements, and which for beauty of design and excellence of finish reflects the greatest credit on Messrs. O'Neill and Sons and their artisans. The carriage is painted a handsome shade of blue, relieved with a lighter shade, the family colours of the gentleman—a well-known harnet—for whom it was built. The interior is upholstered in blue cloth, and is fitted with inside reading lamps, as in a first-class railway carriage.

THE REV. CANON BOURKE.—This distinguished Irish scholar and author, who for many years has been President of St. Jarlath's College, Tuam, has been presented with a suitable address by the students on his leaving the college to undertake pastoral charge of the parish of Claremorris. We may add here that the Rev. Ulick Canon Bourke is the author, among others, of the following works:—"The Bull Ineffabilis," which he has published in four languages—English, French, Latin, and Irish; an "Irish Grammar," in 1868; "The Aryan Origin of the Gaelic Race and Language" (reviewed in these pages), in 1875; and in 1877, "Dr. Gallagher's Sermons in English and Irish." Father Kilkenny succeeds Canon Bourke in the Presidential Chair at St. Jarlath's College.

"METEORIC IRON."—The American journals often contain strange announcements of inventions and discoveries. The *Yuma Sentinel* of California gives an account of a singular specimen of meteoric iron which resembled steel, that had been found in the Mohave desert. It weighs about a pound, has some free gold on the surface, is not magnetic, and has successfully resisted the action of various acid baths. One of its surfaces shows a fracture of crystalline appearance, the colour of which is steel grey, tinged with yellow. It has defied the best cold chisels, and has neither broken nor chipped under heavy blows. If its composition could be imitated it would be the hardest and toughest alloy known.

THE ELECTRIC LIGHT.—A new electric light has been invented by a Mr. Sawyer, of New York, who claims to have exploded the theory of subdivision. The American papers state that a company has been formed for the purpose of adapting the new invention to domestic lighting. The inventor is said to be a very simple one, consisting of a small pencil of carbon, little larger than a pin, and connected by wires with an electric machine enclosed in a hermetically-sealed glass globe filled with pure nitrogen gas. The new invention is known as the electro-dynamic light, and is stated to emit a brilliant white light. The company asserts its ability to fit up lights equal to thirty gas burners, and that, by a very small switch in the wall, the current of electricity can be divided so as to supply a number of burners. The meter difficulty has been overcome by an invention which will register the number of burners, and the number of hours they are lighted. The plan is similar to that of Edison, but the inventor claims to have anticipated the inventor of the telephone. The company states that it can supply the new light at a fourth of the expense of gas.

CONCRETE IN PORTUGAL.—During a recent visit to Lisbon we were much struck with the Portuguese manner of building concrete walls. If the mode followed in the alterations now being made to the river walls, some little distance to the west of the Hotel Centrale, may be considered as a fair sample, we should imagine that speed in execution is not considered of consequence. Lines are stretched and the wall is built to them with as much accuracy both back and front as is usually considered necessary in house brickwork in this country; in fact, it is quite touching to see with what care the workmen take small stones between his finger and thumb and inserts them in the soft mortar in which the large stones are laid, each time looking along the line too see that they do not project the smallest fraction of an inch. The method of building a large sewer in connection with this work is novel, and might possibly be adopted with advantage in this country in localities where flag stones are to be procured at a cheap rate. The section adopted is an approximation to the egg shape, which is arrived at in the following manner. The invert is cut out of blocks of stones of varying lengths, the sides are each made by a flag, and the top consists of three pieces of the same class of flags cut with radiating joints, so that when put together they form three sides of a hexagon, the whole being kept in position by a mass of concrete built around it.—*Engineer*.

**A CENTENARIAN AND A GOOD LANDLORD.**—Mr. Henry Baldwin Foot, J.P., Carrigacunnua Castle, County Cork, who celebrated his hundredth birthday a few months ago, died on the 4th inst. The deceased gentleman was an extensive landed proprietor, and his dealings with his tenants were of the most liberal kind. He supplied them with timber for all farm purposes, free of charge, and gave it them for the building and repairing of their houses and offices. It was his boast that he never evicted a tenant for any cause whatsoever. He encouraged improvements in the tenants' farms and stock in every way that he could, regularly inspecting their farms and homesteads, and pointing out how they could be effected. He allowed for draining the lands, and burnt lime and gave it to his tenants to manure their lands, gratis, and kept pedigree stock for improving the breed of tenants' cattle, free of charge also.

**ASBESTOS.**—Asbestos, an incombustible fibrous mineral, is often ranked among the varieties of hornblende. It is found in considerable quantities in various parts of the world, including England and Scotland. The ancients were well acquainted with this special property of asbestos, and used to weave its fibres into a fire-resisting cloth. They also made it into wicks for the lamps of their temples, and in the present day it is used for a similar purpose in Greenland. The ancients also wove it into shrouds, in which they wrapped the bodies of their illustrious dead before placing them on the funeral pile, in order that their ashes might not mix with those of the wood. In 1702 an asbestos shroud containing ashes and burnt bones was discovered in the Vatican at Rome. In modern times the applications of asbestos to industrial purposes are of a widely different character. It is now largely manufactured into packing for the stuffing-boxes of steam-engine piston rods and valve spindles, for which purpose it has been in use for a considerable time with satisfactory results, being found very durable and self-lubricating. Another form into which this mineral is manufactured is that of jointing. The material for this purpose is first made into sheets of any desired thickness, from which the joints are cut to suit the faces to which they are to be applied. This application is a very important one; for instance, in flanges of large diameters, where a good joint can be made with a thin layer of asbestos at a merely nominal cost. Another application of asbestos is that of boiler covering, for which purpose only a thin coat is necessary, asbestos being an excellent non-conductor of caloric. As with the ancients so with the moderns, irrespective of the Greenlanders—lamp wicks are also made from it. For these various purposes different qualities of asbestos are used, for there are a great many varieties of this mineral. These are all specially prepared, and the various manufactures we have indicated are carried out by the Patent Asbestos Manufacturing Company, Glasgow. This company has hitherto laboured under the disadvantage of having to contend with a very inadequate and irregular supply of the raw material. They have now, however, secured a large and regular supply, and with extended premises and machinery are able to turn out their products in increased quantity and improved quality.

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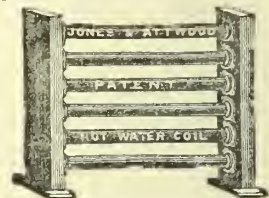
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## Illustration.

NEW TOWN HALL AND COURT HOUSE, KINGSTOWN.

## Contents.

|  | Page     |
|--|----------|
| TECHNICAL EDUCATION AND THE ARCHITECT AND ARTISAN  | 339      |
| Irish Board of Works Administration .. ..  | 340      |
| The Electric Light and the London Smoke Nuisance ..  | 341      |
| Adversaria Hibernica—Literary and Technical ..   | 342      |
| On the Desirability of Obtaining a National Theatre not wholly controlled by the predominant taste of the Public .. .. | 343      |
| The Electric Light Hubbub .. ..  | 344      |
| The Whitehaven Harbour and Docks Board .. ..   | 347      |
| Dublin and its Death-rate .. ..  | 347      |
| Architecture at the Paris Exhibition .. ..   | 348      |
| The Amalgamation Scheme <i>Re</i> Science and Art Museum   | 349      |
| The New (Concrete) Town Hall, Arklow .. ..   | 348      |
| Town Hall and Court House, Kingstown .. ..   | 349      |
| The Alliance and Dublin Consumers Gas Company's New Bill .. ..   | 349      |
| Books Received .. ..   | 349, 350 |
| Scientific and Technical Education .. ..   | 350      |
| President's Address—Royal Institute of British Architects  | 351      |
| A City Swamp .. ..   | 352      |
| The Dublin Port and Docks Board—Projected Works  | 352      |
| Correspondence—Scroll or Newel and Twist; Artisans' Reports .. ..  | 353      |
| Artisans' Dwellings Notes .. ..  | 353      |
| Obituary .. ..   | 349, 353 |
| Notes of Works .. ..   | 353      |
| To Correspondents .. ..  | 353      |
| Home and Foreign Notes .. ..   | 353      |
| Accidents .. ..  | 353      |

## THE IRISH BUILDER.

VOL. XX.—No. 455.

## TECHNICAL EDUCATION AND THE ARCHITECT AND ARTISAN.

**F**OR some few years past in England, particularly in London, there has been an increasing desire and demand for technical education. Some people think this desire originated with the Great Exhibition of 1851, while others say that it was the Paris Exhibition of 1867 which gave rise to the general desire, on account of the superiority which was evidenced in the execution of foreign work there exhibited. To the Paris Exhibition of 1867, as well as to this year's Paris Exhibition, the Society of Arts, co-operating with the Royal Commissioners, sent over a number of British artisans to the French capital, to report upon their respective trades and industries. The reports of the British Commissioners in 1867, and those of the artisans sent by the Society of Arts, were instructive in many ways; but there was a widespread lament that in most branches of work needing superior artistic skill or a knowledge of art principles, the French and other Continental workmen were in advance of the British, and that what was necessary for the success of art and art industries in the British Islands was the spread of technical education.

After a good deal of public criticism and opinion were brought to bear on the City Companies of London, the nominal representatives of the old trade guilds of the city, some half-hearted efforts were made by offering prizes. While two or three of the city guilds showed a disposition to assist, the great majority of the wealthy guilds or companies stood aloof for some years longer. The City Companies, seeing after a while they were likely to suffer in the estimation of the country, if not to have their interests otherwise

effected by sweeping measures of corporate reform, they took counsel and commenced to hold occasional meetings and broach schemes for technical teaching. As far as we can discern, there does not as yet seem to be any clear basis of agreement between the different parties in London who are in favour of technical knowledge, as to the best means of inculcating it.

The City Companies are disposed to establish a Technical University; but, we fear, in looking upon the surroundings and influences of those companies, that the Technical University they would establish would be a rather exclusive one, and more in the interest of the middle classes and of their own order than the general community. As skilled labour and trades are, however, likely to become in course of time more thought of and respected than they are at present, the spread of technical knowledge among the young men of the middle classes will be an advantage. If young men who succeed to money or property through their parents, have acquired in the meantime technical knowledge in public schools or universities, this knowledge will be most useful to them if they should commence life as manufacturers, instead of taking to the overcrowded ranks of the church, the bar, the medical and military professions.

It may be asked, What is really meant by the technical education of the artisan? Is it a knowledge of natural and scientific laws, art principles, or the ordinary or useful acquirement of a sufficient amount of mathematics, geometry and drawing that can be applied in the pursuit of workmen's respective trades? Is the training of a good science and art school the best method of aiding the future artisan? Is technical knowledge to be eliminated, or only given in small doses in our elementary schools,—or again, if it be possible, would it not be proper to make several of our large workshops normal schools of science and art? We say our large workshops and factories, for in our thousands of small workshops no regular system of art teaching could be carried out. There are hundreds, yea, thousands of very large manufactories and workshops in the three kingdoms giving employment to large bodies of workmen ranging from a hundred to several hundreds. The sons of most of these workmen are destined to follow their parents' trade, and what could be better for the interests of the manufacturers and the workmen than to have schools in connection, where the sons of the workmen might learn that technical knowledge which would be most valuable to them in the future practice of their parents' trade? Many of our young men in towns and cities at present attend night schools and classes at mechanics' and other institutions. On the Continent, we believe, there are some large establishments which give employment to hundreds of workmen, and the proprietors have established schools in connection for all the children of the workmen, where elementary as well as technical education is acquired. We think there are many youths in their teens who, in their apprentice years, would be glad to be afforded the opportunity of attending drawing and modelling classes in schools in connection with their respective workshops, foundries, and factories.

Some well-intentioned and well-to-do folk at present interested in the spread of technical education, and anxious to assist our artisans,

talk in a manner as if our artisans, past and present, were entirely void of technical knowledge. They are most unjust when they talk in this manner; but it must be admitted they speak in ignorance of the facts. For the last half-century and upwards artisans generally in the British Islands have received an elementary education, and, in addition to reading and writing, many of them acquired respectable mathematical knowledge. What they have been taught, however, has not been with any view of their future calling, for that was very often depending upon chance. A trade has been acquired hundreds of times over by men who could scarcely write their own names, and, strange as it may appear, some of these men have become excellent workmen, and acquired in the constant practice of their art a facility in drawing to a certain extent or "setting out" work belonging to their trade. In the building branches we have known carpenters, masons, bricklayers, and others of scarcely any education who could follow architects' plans and drawings with the greatest ease, and suggest improvements in them.

A good elementary education is, of course, a great help to an artisan or workman; but it is quite possible to the man that can only read to become an ordinary good workman, for reasons plain enough. The tools and instruments that a young workman takes in his hand and uses constantly are all of them constructed on mathematical or scientific principles. The plane, the saw, the bevel, the trammel and square, and several other tools in their various applications to their allotted work convey technical knowledge, and they are themselves the outcome of construction based on technical and scientific principles. The use of tools in the building and other trades are constant lessons in practical geometry and illustration. Unconsciously, however, many workmen attain a certain amount of technical and geometrical knowledge without being aware of its gradual attainment. The eye by practice becomes educated as well as the hand, and good workmanship by constant practice and experience is performed. When so much is possible to the workman, with little or no education in the beginning of his career, how much more would not be possible to him with sound technical education at his starting. A certain amount of technical knowledge is obtained in most elementary schools which deserve the name. Drawing, which is another form of writing, should be taught in all elementary schools—architectural, mechanical, and free-hand drawing. No boys intended for trades or the industrial arts but should learn to draw. It is valuable and useful in all arts, and that it may be made the more practically useful to the future workman, it should be preceded or accompanied with a fair course of geometrical instruction.

Young men intended for the architectural profession would be the better of a more practical and technical course of instruction, particularly in this country, than they at present receive. There are not a few of our young architects who would find it to their great advantage to be possessed of some of the practical knowledge and experience of our skilled workmen in the building branches. The planning of a house and the writing of a specification do not constitute the architect. Not only is a good knowledge of materials and their strength and durable qualities required, but the architect ought to be able

to see with the eye of the workman the embodiment of his design in his mind's eye, and not, as is often the case, have to submit to alterations as the work progresses. The man that constructs in brick, stone, and wood often foresees difficulties and sometimes impossibilities, which are not apparent to the draughtsman; and the execution of a framed and open timber roof, or a staircase of a complex character, is quite a different matter, and not so easily performed as its representation on paper. The architect who cannot give clear working drawings of the difficult portions of his building or structure in carpentry, bricklaying, and masonry, is deficient in the essentials of his profession, and he lacks that technical knowledge which is as necessary for him to know as the workman on whom he depends.

In view of these matters we think that architects' pupils and young assistants ought to be placed more often in contact with works in process of construction than they are, either by acting in the capacity of clerks of works or spending a short term in builders' employment before settling down to the desk and T-square. Certainly the young man intended for the architectural profession would be the better of practical acquaintance with the workmanship of the different branches of the building art and the various methods adopted in performing it.

The Architectural Association of London is doing excellent work, so far as it goes, for its young members. It has an elementary class of design, a class for the study of colour decoration, a class for the study of architectural science, and a class of construction and practice. The short-lived Architectural Association of Ireland attempted to do a something in a similar way, but the half-hearted efforts after a session or two collapsed, and with them the association. The Irish Institute, so called, is showing no signs of vitality, although the Royal Institute of British Architects and the Architectural Association of London have actively begun their winter sessions. We fear that many of our Irish architects, old and young, not only need a little technical education, but they seem to stand in need of elementary knowledge and moral courage. Some of our elder architects long for something to lean against or to hold, like the infant on all fours. This want provided, some of them would be disposed to put their feet under them and advance a little. The president of the Royal Institute of British Architects tendered them some good advice through our columns a short time since, and we hope they have not forgotten it.

When our architects, old and young, again unite their scattered forces, we hope they will give some little attention to the cause of technical education in their own ranks as well as in that of our building workmen. We do not know whether there is a modelling class in connection with the Architectural Association of London, but we are inclined to believe the formation of such a class would be found most useful. The young architect need not know how to handle carpenters' tools to construct a model of the building he has laid down on paper, for there are other materials which he can use in architectural modelling besides wood. Thousands of pounds might be often saved if a model was constructed before a large public building or other massive or elaborate structure was commenced, and the money spent on the

construction of a wooden model would be usefully expended. Modelling in any branch of trade is one of the best systems of technical instruction, for the drawing precedes the model, and the executed model affords a fine opportunity of seeing what the intended work will be like when finished.

The Society of Arts certainly deserves credit for its continued efforts of late years in the cause of technical education; and the architectural journals of London have also from time to time done good service. We have ourselves in Dublin, like our contemporary in London, aided the movement by our advocacy year after year; but preaching in this city has been for the most part preaching to dull ears. There are, however, some little signs of an awakening, and employers and workmen are beginning to realise the fact that the want of technical knowledge means foreign manufactures and the displacement of home products, and consequently want of employment and distress instead of national prosperity.

#### IRISH BOARD OF WORKS ADMINISTRATION.\*

##### CONCLUSION.

COMING to the final recommendations of the Committee which point out the means by which the Irish Board of Works may, in its administrative branches, be rendered more efficient for the discharge of its important duties, it is recommended that the Assistant Commissioner, Mr. Roberts, whose responsibilities and duties under present arrangements are practically the same as those of the Second Commissioner, Mr. Le Fanu, should be placed on the Board in the capacity of a full Commissioner, with a salary of £1,200 a-year, and that Sir Richard Griffith should be relieved of his nominal duties. Death, since the publication of the report of the committee, has relieved the Board of its nominal commissioner, and rendered it more easy to carry out the advice tendered. If the recommendations of the committee are carried out,—and we contend they ought to be under the new organisation,—the Board will consist of one chairman or first commissioner and two commissioners of equal rank and power. Mr. Roberts, we think, has evidenced tact and talent which fully qualify him for the new appointment, to which we hope he will be advanced.

On the head of individual responsibility, the committee very properly remark:—

"It will be necessary, if these recommendations are adopted, that provision should be made for meetings of the Board in case of the unavoidable absence of the chairman or one of the commissioners. With this view we recommend that when two members only are present at the Board, its decisions should be governed by the casting vote of the chairman, or of the senior commissioner occupying the chair in his stead. We are strongly of opinion, however, that no technical majority of votes at the Board should in any case lessen the personal responsibility to the Treasury and the public of the chairman himself for every decision at which the Board may arrive; and that it should rest with him to ask instructions from your lordships on any subject respecting which there may be a difference of opinion between himself and his colleagues."

These recommendations are fair and sound, and, we think, unexceptional.

With regard to the duties of the secretary, we consider also the suggestions are good, and ought to be adopted. If the regular board meetings are again established—and it is necessary that they should be—of course

the presence of the secretary is essential. The committee in this view of the case say:—

"It should, we think, be his duty [the secretary's] not merely to record in a formal manner the subjects discussed and the decisions arrived at. He should also see to the proper execution of the orders of the Board, and the preparation of the different cases which it is intended should be submitted to the commissioners, having on his own responsibility previously conducted through the preliminary stages the correspondence to which the subjects may have given rise. By this means the secretary would be assigned more definite employment and a more recognised position in the office than, as far as we could judge, he has at present. He exercises, it is true, a sort of general supervision, subordinate to the Board, over the various branches of the department; but his actual duties are now chiefly confined to those of a more routine kind than an officer with a salary of £800 a-year should be expected to perform."

The Committee, however, conclude after viewing the whole surroundings of the secretary's duties, that it would probably be not fair to impose fresh duties on an officer like the present secretary, who has been in the public service for more than forty years. Mr. Hornsby has certainly been an able public servant, having previously performed duties in connection with the Shannon Commission and the Railway Commission, and he is entitled to fair dealing and fitting reward. The Committee think that after such a lengthened public service, Mr. Hornsby is entitled to retire on a pension, and they recommend that he should be replaced by an officer who would be able to relieve the Commissioners of some of their less important duties. "Such an arrangement," think the Committee, "will give them more time to devote to inspection, and enable them to attend to some of the more important business, which now appears to be left too much to officers of the Board." Mr. Hornsby may not, however, wish to retire, if he finds himself fully capable of performing the duties required with adequate temporary assistance, when it is needed. In view, however, of his long service, probably if his pension was regulated on a liberal scale he might embrace the opportunity, and make room for a younger official. At the same time we see no reason why any pressure should be put upon Mr. Hornsby, to necessitate his retirement, as no complaint of inefficiency has been preferred against him, and we have not ourselves heard that he has ever seriously failed in the discharge of his arduous duties.

Respecting the duties of the present head of the department, Col. M'Kerlie, the chairman, and First Commissioner, the committee say that:—

"We feel that the head of this important department should possess unusual administrative abilities, that he should command your lordships' entire confidence by a vigorous and comprehensive grasp of the subjects with which he is called upon to deal, and that he should be able, both in his recommendations to the Treasury and in his communications with the public, to enforce his views with authority. Nothing can be further from our intention than to depreciate the merits of the present chairman, or detract from the value of his long and (we may add) distinguished public services. Nothing can exceed the zeal with which he has applied himself to his work, or the conscientious industry which he has brought to bear upon it. It is possible, however, that after so long a period of service, rendered peculiarly arduous in consequence of the incomplete constitution of the Board, he may now feel unequal to the strain which our view of the responsibilities, if approved by your lordships, would necessarily entail, so as to enable him to do full justice to himself as well as the department, and if so, while regretting that the Board should be deprived of the advantage of his great experience, we think that he should be afforded an opportunity of retiring, and that a special pension should be secured to him."

\* See ante.

In the face of the just tribute paid to the chairman on the score of his long services and acknowledged abilities, the cleverly-worded recommendation anent retirement involves more than it expresses, and we cannot blame the chairman or his friends for receiving it with a bad grace. On this point we think the chairman has every right to feel deeply concerned; for a retirement just now, if forced without his consent, would militate to some extent against his reputation. If the chairman deserves the encomium passed upon him by the committee for his administrative abilities, he certainly deserves to retain his office until he is disposed to retire himself, or till some personal infirmity or the advance of years tells him it is prudent for him to seek rest. It is needless to say, for it can be seen, that we have reviewed the report of the committee impartially, and spoken our mind unreservedly on several points; but justice compels us to say that the charges advanced against the chairman in some directions are small compared with the magnitude of his responsibilities and services; and these complaints were in most cases the results of a system which he was powerless to control without the power of re-organising branches of the service which were not of his formation. Doubtless the chairman had full confidence in the integrity and efficiency of some of his subordinates, and he accepted their reports and statements unchallenged. It would be almost impossible for the head of any public department like the Board of Works to prevent mistakes, and some abuses will crop up, despite the best management, with the growth of departments, and often exist without his knowledge through the connivance sometimes of under-officials. Diligent supervision is required, and in this the head of a department is mostly dependent for his information on the advice of those below him. To prevent abuses or irregularities, periodic visitations and inspections are necessary; and it is absolutely requisite also that all branches of a public service should be well-manned by providing a sufficient number of officers. It is false economy to stint or starve any branch of a public service, whether it be governmental or otherwise. Good organisation and a proper division of labour are the prime essentials—an office for every distinct work of importance, and every officer or official in his proper office, and held accountable for the due performance of his allotted duties. Under such regulations we are sanguine the future administration of the Irish Board of Works will fastly improve; and, with the requisite powers and assistance, we have little doubt that the present chairman, if he desires to continue in office, will be able to carry on the administration of the Board with credit to the service and himself and colleagues.

It will be seen from what we have written above (although we have commented on the shortcomings of the Board in the course of our notices) that we adopt the opinion of Viscount Crichton, M.P., the only one of the parliamentary commissioners who dissented from his brethren on the committee in respect to the suggested retirement of the chairman. While Viscount Crichton concurred in the censure passed on the Board in certain respects, and for which Colonel M'Kerlie in his capacity as chairman was held responsible, yet he was unable to concur in the recommendation of the committee, as already quoted by us, as he regarded it as

equivalent to an intimation that the retirement of the chairman was desirable:—

"On the whole evidence," says Viscount Crichton, "submitted to us, I cannot see sufficient grounds to warrant such a reflection upon his [the chairman's] management of the Board, and I should be glad to think that the advantage of his great experience and intimate acquaintance with the duties of the office should be preserved to the department in the future."

We have no desire to hide the faults of the Board or lessen the effects of any just censure passed by the committee, but after going through the very voluminous report, and carefully considering the defence made by Col. M'Kerlie in his subsequently-published "Statement," we are more disposed than ever to agree with the final conclusion of Viscount Crichton. Had the committee the advantage of the information and the explanations given in the "Statement" of the chairman, before their report was printed, doubtless they would have modified some of their remarks, if not altogether omitted them. As the head of the department, the chairman of the Board of Works is held responsible for the administration of the Board; but, as we have already indicated, a good deal of blame attaches to others, who have failed in their obvious duties. Not to mince matters too nicely, we fear that in one or more of the executive branches of the Board of Works, some responsible officials and assistants entrusted with duties in connection with public works and services have proved false to the service and the country, and the chairman has been badly served by them. There is much truth in what Col. M'Kerlie says towards the conclusion of his "Statement":—

"The spirit by which the Board is actuated has, however, unfortunately been unknown to and misunderstood by a certain section of the public."

Errors of judgment may be expected now and again, and delays will sometimes occur in carrying out works or granting loans, the consent of their lordships of the Treasury not being given sometimes until after a long correspondence. The change of a government may also lead to delay, and with individuals and public boards inquiries have often to be made under difficulties, respecting the nature of the securities offered. It can be urged on Col. M'Kerlie's behalf that his personal efforts have not been small, for he has initiated several measures for the advantage of the country, which have been sanctioned by Parliament. Some of his recommendations have also been adopted by the Government, and may one day or another be carried out.

In their "Concluding Remarks" the committee throw out some suggestions respecting the Annual Reports of the Board, and they also suggest the direct representation of the Board in Parliament. Their views on the head of these matters are so worthy of thoughtful consideration that we append them:—

"We have reason to believe that the presentation of the report [annual] to the Treasury is practically only nominal, and that it is received by your lordships without comment, and merely *pro forma* for further presentation to Parliament. We think it would be a great advantage and convenience to Parliament, and likewise a guarantee to the public, that the full benefit of the facilities intended by the Legislature had been placed within their reach were the report periodically, if not annually, accompanied by a Treasury minute, reviewing and commenting on the Board's transactions, and drawing special attention to the failure or success of any measure with which the department is concerned. If this step were taken we think that triennial reports

would be sufficient, and would attract more attention than the present annual publication. The administration of the Board of Works has, no doubt, much influence on the progress and prosperity of Ireland, and therefore should be quickly amenable to public opinion. With a view adequately to secure this end it has been suggested that the Board should be directly represented in Parliament by a responsible minister, and further that the chairmanship of the Board might for this purpose be combined with the presidency of the Local Government Board, thereby relieving the Treasury and the Chief Secretary to the Lord Lieutenant of some of their Parliamentary duties. As, however, such an important alteration as this suggestion would involve could only be carried out by the Executive Government with the approval of Parliament, we consider that we should be exceeding the scope of our instructions were we to go further into its merits."

We are not sure that a triennial report of the Board would be as useful as the present annual one; besides there is always an anxiety on the part of the public to hear how the various operations under the Board progress. An annual statement, all things considered, is the best, whether it be on the part of a Government Board or a public company. As regards direct representation in Parliament, it is a question that would need further ventilation before one could definitely pronounce on its advisability.

As the Irish Board of Works is a necessity in the country, we desire to see it made more and more useful in the interest of the common weal. Chiefly for this reason we have devoted considerable space to the review of the administration of the Board; and we trust that, without sacrificing our independence or principles, we acted with justice to all parties consistent with the facts placed before us, and other information gained by a practical experience of the matters criticised.

#### THE ELECTRIC LIGHT AND THE LONDON SMOKE NUISANCE.

THE following testimony as to the advantages of gas for domestic purposes is put forward by a London medical doctor in a letter which appears in the last issue of the *Journal of the Society of Arts*:—

I look forward with much interest to the forthcoming paper at our rooms, on the electric light question. Although I have always held that electricity, sooner or later, was destined to become the light of the future, still my faith in coal gas is so strong, that I have doubled my stake in gas shares since the scare began. I have done so because I can see that coal gas is destined to become the cooking and heating power of the future. An arrangement of this kind would exercise an important influence on the domestic life of the community. With gas cooking, ladies could, without inconvenience, become expert cooks, and thus solve one of the greatest problems of our domestic economy. Again, as we should have no dusty and sooty grates to clean, we should be able to live with fewer domestics. Dr. Down informs me, that at his great institution at Hampton Wick, he does all his warming and cooking by gas, and although his gas bill is £500 a-year, and gas 5s. the 1,000 cubic feet at Hampton Wick, he saves money by the use of gas in the place of coal, as he is enabled to do with probably six fewer servants. That warming and cooking by gas can, under the best management be effected cheaper than by coal, many know from experience. If, then, this can be demonstrated, and our great gas companies will become domestic gas-fitters, and supply their customers with the best possible apparatus at the least possible price, not only will gas shares continue to be an excellent investment, but our domestic comforts will be greatly increased, our social position improved, and the great smoke of London may then become abolished. As it is calculated that two millions sterling a-year of property is destroyed by the London smoke, we have, in this fact, an immense incentive to the substitution of gas for coal fires. GEORGE WYLD, M.D.

SHORT TIME.—It is stated that, consequent on trade depression, many of the mills in Belfast will only employ their hands for four days weekly.

# ADVERSARIA HIBERNICA, LITERARY AND TECHNICAL.

ONE of the best methods, we think, of studying the social manners of our citizens throughout the eighteenth century, is to look up the files of the old newspapers of the period, beginning with the first regular newspaper published in Dublin—*Pue's Occurrences*. Faulkner's *Dublin Journal* throughout its career will also afford many curious phases of social and literary life, for Swift's printer was a somewhat remarkable personage, and his journal an interesting chronicle in many ways. Our citizen merchants a hundred years ago and upwards knew how to advertise their wares, and say a good word in their own favour. Considerable quantities of wine were drunk in the capital, and, indeed, all over the kingdom in the last century; and our noted Dublin hotels and inns were well stocked with the vintage of France and the Peninsula. Bridge-street, Dublin, was a busy business thoroughfare in old times, and down to our own time. The Brazen Head Hotel, we believe, still exists, and it has many old memories. In 1750 the "Brazen Head" was kept by one Christopher Quin, and we have before us one of Kit's advertisements which shows that his wine bins were well stocked, and that travellers and visitors were sure to get a bottle of good wine at a cheap rate at the "Brazen Head." Let us hear what the noted inn-keeper of 1750 has to say:—"Christopher Quin, at the sign of the Brazen Head, in Bridge-street, being determined to continue the wine trade as usual, has fitted out said house with neat accommodations, and being lately arrived from Bordeaux, has imported a parcel of choice clarets of different growths, the vintage of 1747 and 1748, which he sells by wholesale and retail, at the following prices, viz.—Neat claret of the first growth of Obrejone, at £18 per hogshead, and 18s. per dozen; neat Margoux and Medoc claret, at 16s. per dozen; Graves claret, at 14s.; neat red and white port, at 15s. per dozen; Mountain sherry and Lisbon, at 14s. per dozen; neat pruniac white wine, at 13s. per dozen; plain white wine and St. Martin's Renish, at 12s. per dozen; Frontiae, at 15s. per dozen; genuine old Canary, at 20s. per dozen; with good encouragement to those who buy the hogshead." The above sums were all in Irish currency. The "good encouragement," of course, meant that Christy Quin allowed a liberal discount to those who were disposed to take the barrel instead of the bottle. From the above advertisement it would appear that the Brazen Head was originally more of a wine shop than an inn or hotel. Coming down to the close of the last century the Brazen Head in Bridge-street became famous for meetings and committees of the leaders of the "United Irishmen." James Napper Tandy and Oliver Bond, two conspicuous members of the society, were residents for several years in Bridge-street—the former at 67 and the latter at 13. Bond died in prison, and was buried in St. Michan's graveyard, Church-street.

Here is another curious advertisement of the same year, which may interest fencers, duellists, pugilists, or others of that kidney. The "noblemen" of Ireland in the past seemed to relish the sight of a couple of coxcombs skinning each other as much as a couple of game cocks fighting to the death with silver spurs:—"This is to give notice to the public that the battle which was to be fought in Dublin, at the Back-sward, between Mr. Edward Dalzel, of England, and Mr. Edward Sill, of Ireland, is, at the request of several noblemen and gentlemen, to be decided at the cockpit at Kilcullen Bridge, the day that Black and All-Black runs at the Curragh, for 50 guineas, and the whole house; and whoever gives the most bleeding wounds in nine bouts, shall by approbation have all the money. The doors to be opened at 9 o'clock in the forenoon, and fight between

11 and 12. Front seats, 5s. 5d." The above exhibition shows tolerably clear the amusements that pleased the noblemen and gentlemen of Ireland upwards of a century since. Indeed, we are not sure if they were not prone to keep up the custom till the first decade of the present century. The brutal exhibition of the pugilist has not yet died out, although the law has broken up the regular "ring" within the last twenty years; but the law appears as yet powerless to wholly stamp out the lingering custom, the nicknamed "noble art of self-defence," the once patronised by our noblemen.

We have on former occasions given some particulars of the old stage-coach service in the last century, and here are some further particulars of interest. Now although as early as 1742 and previous there appears to have been a regular service from Dublin to Athlone, Belfast, Kilkenny, Kinnegad, Newry, Drogheda, and some other places, it was not until forty years afterwards a stage-coach service existed between Dublin and Cork, Waterford, and Limerick. Travellers were obliged to hire a chaise for the whole of the way, for there was not even posting. A local writer in 1833 gives us some reminiscences of travelling in Ireland in his youth. He writes: "I remember in 1785 some friends who had to travel from Dublin to Cork, and they had to hire a chaise and pair to fetch them; the price was five guineas, and they took the same horses the whole way, and arrived on the fifth day at their destination. The same year I travelled with my family, and we had to take the chaise the whole way to Waterford, which we reached at two o'clock on the third day, and were delayed at the ferry [over the Suir] (for there was no bridge) for nearly two hours. It took thirty-five minutes to cross in the horse boat, and about twenty-five in what was called the light boat, two or three men at each oar—the men standing and rowing in the eddy tide for about 300 yards, taking what they called 'mud strokes,' and then, when so far above the opposite ferry, calculating that the rapid tide would bring them right to the other slip, which, if they overshot, as was often the case, the labour was most severe to pull up again." The wooden bridge over the suir at Waterford was not built until some year in the last decade of the last century.

There were several ferries over the Liffey above old Essex Bridge and below it extending to the place where Carlisle Bridge stands. The Dublin ferry-boats plied in the winter months from daylight till nine at night. There was a ferry station exactly where Carlisle Bridge stands, but the approach to it from the College before Westmoreland-street was opened was through "one of the most barbarous and cut-throat lanes possible." This was called College-lane. By extending your hands and standing in the middle of the lane you might touch the houses on either side with your fingers.

Pendant to the above, here is a picture of one Dominick Roche, the proprietor and driver of the Drogheda coach towards the close of the last century. The Drogheda coach started from Bolton-street, about 9 a.m., and was supposed to reach its destination at 4 o'clock p.m. As described by one who knew him and travelled on his vehicle, this strange character wore a wig at variance with a jarvie's true caxon, and yet it was not a lawyer's or a bishop's wig, but a *sui generis* concern. Dominick wore a blue coat, a red waistcoat over a pot-belly, leather breeches, blue stockings, and buckles on his shoes. His coach was thickly studded with brass nails, like an old hair-bottomed chair, the machine had two iron affairs called springs, but nearly perpendicular, and scarcely flexible. These were in front, but behind there were two stout posts and chains, and woe to the traveller whose teeth were loose. Dominick made a stop on his way at a place called the Black Bull for nearly an hour, and

again at Swords, and thirdly at the Man of War for an hour and a-half. He had the same horses to the latter place, and but a pair. The writer to whom we are indebted for the above particulars, says that "everyone knew Dominick, and he had a word for all; he was about seventy years of age the last time I saw him, and you might as well bend one of his springs or posts as put him out of his way." What think you, reader, of old times, and travelling on such machines as those of Dominick Roche? Would you like to return to these days? However you might like the picturesque garb of Dominick, and the pleasure of a summer morning drive along the northern road, we fear you would not like the seven hours' journey to Drogheda in winter, instead of a run by rail from Amiens-street to the mouth of the Boyne in one hour. One can now get to Cork by rail in less time than Dominick took to reach Drogheda. Indeed, we may take a comfortable breakfast in Dublin and be in time for an early dinner in Queenstown on the one day. We are not yet, of course, free of risks or sure of our lives on rail no more than on the road. We need not fear the highwayman, but the danger of a collision or a tumble over the embankment is always possible.

"According to Cocker"—the expression is often used out of place, and not in relation to numbers or the correctness of any added sums. It would be well, indeed, for ratepayers if municipal balance-sheets were always "according to Cocker"; if so, we would not have so many cooked accounts. Who was this Cocker, so often in people's mouths, but of whom so many who use his name know but little? How many are there in every thousand of our population who can say they possessed a copy of "Cocker's Arithmetick"? The original edition is very scarce, and, we believe, generally brings a good price before it is parted from the hands of our old booksellers. Edward Cocker was to all intents an Englishman, born about 1632, and died some time about 1675. Cocker was an industrious schoolmaster in his day, and was the author of several copy-books, a small dictionary, a book on writing called "Cocker's Morals," and, lastly, a useful treatise on arithmetic, which was published by his friends shortly after his death. An intimate friend of Cocker, one John Hawkins, gave the treatise to the world, and several other friends and admirers of Cocker testified to the usefulness and excellence of the work at the time. For long years after the publication of Cocker's treatise all books published on the same subject were said to be "according to Cocker." We have before us the "fifty-fifth edition, carefully corrected and amended," published in the year 1758. There have been several other editions subsequently, before the close of the century. In the edition before us there is a frontispiece representing Cocker in the act of ciphering or writing, but whether it is a *bona fide* likeness we are unable to say. Underneath Cocker's portrait are appended the following lines:—

"Ingenious Cocker, now to rest thou'rt gone;  
No art can shew thee fully but thine own!  
Thy rare Arithmetick alone can shew  
Th' vast sums of thanks we for thy labours owe."

In our schoolboy days there was an arithmetical treatise very popular in a number of our schools in Dublin called "Gough's Arithmetick." One often heard the expression respecting such-and-such a youth that he was very clever, as he had gone through "The Gough." Going through "The Gough" in Dublin was tantamount to knowing arithmetick "according to Cocker." Our Dublin author, Gough, was, we believe, a Quaker, and, if we remember our researches aright, lived in the last century in Meath-street, where he published several almanacs and school books. If we are mistaken, perhaps someone will put us right, according to Cocker or Gough, or some other safe authority.

# ON THE DESIRABILITY OF OBTAINING A NATIONAL THEATRE NOT WHOLLY CONTROLLED BY THE PREDOMINANT TASTE OF THE PUBLIC.\*

(Concluded from page 328.)

HITHERTO only five-act comedies have been spoken of. Let us turn to the lighter class in three acts, which had their rise at "the little theatre" in the Haymarket, two of the best known of which are "Sweethearts and Wives," by Kenney, and "Paul Pry," by Poole. To this class many pleasant contributions have been made by Mr. Planché, Mr. Henry Byron, Mr. Albery, Mr. Tom Taylor, Mr. Gilbert, Mr. Frank Marshall, Mr. Burnand, and notably by the late Mr. Robertson, whose charming sketches of modern society have made the fortune of the well-managed little theatre wherein they were so perfectly mounted and so admirably acted. With curious inconsistency these fresh life-like productions have been sneered at by modern critics as the "tea-cup-and-saucer" school. What, in the name of patience, would they have? Here are the manners of the day, and the men and women of it, as truly represented as in a photograph; but how about the vitality of the works? How long will the best of them survive their lamented author? How many of the most popular pieces of this calibre, written in strict compliance with the rule propounded, will be in existence fifty years hence, or in any case ever take rank as part of our National drama? If we are to understand that sufficient for the day is the drama thereof, it is obvious that the drama of the day will be only the drama for the day, and that if the rising generation of playgoers can be infected with this opinion, we may bid a long adieu to "Hamlet" and "As You Like it," to "Julius Cæsar" and "A Midsummer Night's Dream"; even "The School for Scandal," and "The Rivals," those sheet-anchors of "the commercial manager," who, notwithstanding his contempt for them, flies to them in despair when rapidly drifting into Basinghall-street, will be consigned to oblivion as obsolete and unpardonable, as are the cocked hats and hoops of the time they were written in. Indeed, if my memory serves, there have been recently suggestions to that effect, and the dialogue of Sheridan has been denounced as indelicate by censors who saw nothing objectionable in the highly-coloured situations of Sardou. "The manners of the day?" Why all the greatest comedies that were ever written, from Aristotle down to George Colman the younger, reflect the manners of the day and country in which they were composed, and are consequently invaluable for educational purposes; and it may be asked, why, then, should not those of our present dramatists be destined to an equal celebrity and term of existence? The answer might not be considered complimentary, for it would suggest comparisons, and, to quote a still-existing comedy of some little reputation, "comparisons are odorous." I will content myself by asking where are all the comedies of Morton, Reynolds, and their contemporaries? Our present dramatists can scarcely be offended by being classed with the authors of "A Cure for the Heartache," "Speed the Plough," "Laugh when you can," "The Dramatist," and a score of other favourite pieces, which drew money in the time when "George the Fourth was king." They reflect the manners of their day, but with the exception of one or two which, cut down to the dimensions of a farce, have been ineffectually resuscitated under stress of weather, the stage knows them no more. I only call attention to the fact, and leave the critics to account for it. They would be compelled in fairness to admit that there are elements of vitality in the old comedies without which "the manners of their day" would not have made them still popular in ours.

It is foreign to my object to enter into a discussion respecting the sensational drama which has, to a certain extent, supplanted the old melo-drama of the English stage. It comprises many works of considerable power, well written, unobjectionable in subject, and affording excellent opportunities for scenic effect and good acting.

There is no desire to interfere with legitimate speculation, or to deprive any portion of the public of the entertainment most acceptable to them. On the contrary, our taste is so catholic that we can thoroughly enjoy any theatrical entertainment that is good of its kind, and rejoice that so much good of every kind is constantly being represented. My quarrel is with those who would prevent a large body of educated persons from enjoying an especial description of theatrical entertainment, which is undoubtedly of a higher order and requires artists of the greatest ability to interpret. We ask but for one theatre which, either by private subscription or government subsidy, may be devoted to this object, and rendered independent of the caprices of fashion or the prevailing taste of the public. It must be a theatre in which the educated public can enjoy regularly, and not spasmodically, the best plays, acted with intelligence, and placed on the stage reverentially and artistically. This, the present system will not give. "Look at the results of the system as it is," says the writer of an excellent article in a new journal devoted to the stage,—"Does private enterprise find itself equal to the task of presenting the noblest English dramas by thoroughly adequate companies all the year round? Can a manager, who necessarily has a keen eye for profit, be expected to avoid the long-run system, the "star" system, and the system of discouraging all young playwrights and young players until their names are made? Can private enterprise found a school of acting, except in the limited sense in which a theatre, by cramping all its company to one style of piece, gives to its performances a characteristic manner of its own? The mere pecuniary difficulty in the way of securing such a company and such a repertoire as those of the Théâtre Français places the undertaking wholly beyond the reach of individual effort; nor, indeed, could it be overcome by any aid which was unable to compensate for comparative smallness of salary by offering *prestige*, permanent employment, leisure for study and pleasure, and the prospect of a pension in years to come. Now these advantages, which are at the very root of the success of the Parisian theatre, cannot, as it seems to us, be secured except by means of a subsidy paid in some way or other by the nation for that which we hold to be an incalculable national gain. If it be an advantage to possess, at least, one theatre which may be conducted without any necessity to look for hand-to-mouth profit, which may, to some extent, practise art for art's sake, and which may guide rather than follow public taste, then is that advantage one for which we should be prepared to pay."

My own conviction is strongly in favour of a State subvention,—a subsidised theatre where the glories of our past writers might be enjoyed and new poetical and thoughtful works fittingly brought forward. The chances for obtaining this have lately greatly increased, and opinions in its favour have been expressed in influential quarters. Mr. Gladstone, in the course of a letter to the editor of a theatrical paper already quoted, said, in reference to some articles which appeared in it a few months ago,—"I have already thought that there are strong arguments,—among them some which may be drawn from the existence of institutions like the Royal Academy,—to show that the Drama requires, in order to its prosperity, some great centre of attraction and of elevation." This must be regarded as a most important expression. From abroad, too, comes the report of a conversation between the King of

Italy and Signor Rossi; in the course of which the King spoke of the low ebb to which the histrionic art had fallen in that country. "What we want," he said, "is a theatre like the Comédie Française. Your art is a powerful instrument of civilisation. That civilisation must emanate from Rome. My father loved and esteemed you, Signor Rossi, as well he might. You are an honourable remnant of most distinguished troupes. Halcyon days those in which they flourished! The art was then well represented, and I promise you those days shall return before long."

To obtain this subsidised theatre, however, in England, may be a work of time, and would probably require, as a first step, a properly organised and regulated company; whereas it is most desirable that such a theatre as we are looking for should be established at once. The question then is, how can the experiment best be tried? And I fall back on the plan which I have ventured before now to suggest for consideration,—that plan which gave us the Great Exhibition of 1851 and some of its successors,—a *list of guarantors*; a hundred persons, say, subscribing each a certain small sum for the first expenses, and giving their names for a larger sum in case of necessity; a small committee of the guarantors to supervise; and a proper and responsible manager. An existing theatre to be taken (pending the time when a model house should be provided), large pit, and moderate prices; no long runs; no short hirings of actors; a dramatic school attached; the advancement of the drama, and the healthful amusement and delight of the public to be considered the paramount object of the undertaking. Such a scheme properly brought forward, would, I am strongly disposed to believe, soon find the requisite number of supporters.

A few words now from others.

Being able to quote the opinion of statesmen and dramatists, I thought it desirable to obtain also the opinion of some eminent actors. Amongst others, I applied to Mr. Hermann Vezin, who justly enjoys a high reputation as an intellectual artist, and to Mr. Henry Irving, and append their replies:—

"Dear Mr. Godwin,—You ask me my opinion as to the advisability and possibility of establishing in London a theatre analogous to the Comédie Française in Paris, the Royal theatres in Berlin, Vienna, and other capitals of Europe.

I answer that it has always been my most ardent desire; that I believe, without such a theatre, the English drama will never stand upon the eminence it could and should attain, and that it is possible to establish such a theatre, either by Government subvention, or by the aid of subscriptions of the wealthy, or, in what I think the best plan of any, by a guild of actors themselves, without any exterior aid.

English theatres, being private speculations, their managers, even when gentlemen of high culture and artistic aspirations, must find their judgment unsteadied by the great pecuniary risks they run. If actors, they are tempted to sacrifice their theatres to their personal ambition; if merely tradesmen, to an unwise parsimony.

There are two theatres in London whose managers spare no expense, and make their interest as actors subservient to the interest of their theatres. But the example set by the Bancrofts and Mr. Hare does not seem likely to obtain many followers, nor should the welfare of the art depend upon the doubtful chance of a constant supply of such managers.

It has frequently been the case that a great actor, finding it impossible to attain his proper position under other managers, has found himself compelled to take a theatre, that he might have the opportunity of playing the parts for which he felt himself suited. Edmund Kean and George Frederick Cooke were about the only ones who attained greatness without the burden of management. Garrick, the Kembles, Macready, and Charles

\* By George Godwin, F.R.S. Read at Cheltenham Congress of the Social Science Association (Art Department), October, 1878.

Kean, were all managers; but they all would have infinitely preferred to remain simply actors, if their proper ambition and artistic tastes could have been gratified in some one else's theatre.

The actor must deteriorate when burdened with the cares of management, and the manager cannot possibly attend to all his duties if he is an actor as well.

I am frequently applied to by young ladies and gentlemen, who wish to make the stage their profession, as to how they should proceed. It is impossible, in the present state of things to give them a satisfactory answer.

I should like to say, "Go and enroll yourself on the books of "the English theatre." You will then be put through a course of training in elocution, singing, fencing, deportment, dancing, and so on. You will have to go on the stage as supernumeraries; be gradually entrusted with a few lines to speak, and meantime, at intervals, *matinées* shall be given, in which you and your fellow pupils shall play pieces selected by the teachers for the purpose, so you will get your practice; and, if capable, be gradually advanced to play such parts in the regular performances as may not be beyond your powers."

I could tell some disheartening tales of weary waiting for opportunities that may never come, both with actors and authors.

But it must be confessed that, with all its disadvantages, the British drama is in a very healthy condition. All it wants is its opportunities. In brief, we want a theatre which shall be devoted to the cultivation and exercise of the dramatic art for its own sake; not to making money, not to promote the interest of any individual actor, not to the production of plays written down to the level of the lowest understanding.

The greed for money seems to me to be at the bottom of most of the evils complained of, and yet I believe that such a theatre as we wish to see established would make more money than any of those managed on existing principles.

HERMANN VEZIN."

Mr. Irving writes thus:—

"My dear Mr. Godwin,—The question of the establishment of a National Theatre is surrounded by so many difficulties, and has so many side issues, that the time at present at my disposal does not allow me to go properly into it. Still the broad idea is one which a few suggestions, which are the outcome of my thought and experience, may be of service to you.

The two questions which must from the beginning be held in view are:—

Is a National Theatre desirable?

Is its establishment upon a permanent basis a possibility?

With regard to its desirability I have little, if any, doubt. In this country artistic perfection or a high ideal is not always the road to worldly prosperity; and so long as open competition exists there will always be found persons whose aim is monetary success rather than the achievement of good work. Thus mere spectacle, and, at times, even ribaldry, are employed to swell the pockets of managers at the expense of public taste. In order that the Stage may be of educational value, it is necessary that those who follow its art should have an ideal standard somewhat above the average of contemporary taste. This standard should be ever in advance, so that as the taste and education of the public progress the means for their further advancement should be ready. To effect this some security is necessary. In an age of competition men cannot afford to be idle. "Whilst the grass grows the steed starves," and to wait in patient inaction for the coming of better days is antagonistic to the spirit of artistic effort. In order that those who are capable of improving others, and who are willing for the purpose to sacrifice in a measure their personal wishes and desires, should not lose their power, some protection should be extended at such times as might be necessary. Of course, each individual may in his own time do much; but life is short, and when the individual

withers all, or nearly all, the influence of a life of labour, which might, under proper system have become solidified into a permanent good, passes away. If then the purifying and ennobling influence of the art is to be exercised in such a manner as to have a lasting power, it is necessary that the individual be replaced by something in the shape of a corporation, or by the working of some scheme by its nature fixed and permanent.

It would, I think, be at present unadvisable to touch upon the subject of State subsidy with reference to the British Stage. The institutions of this country are so absolutely free that it would be dangerous,—if not destructive,—to a certain form of liberty to meddle with them. *Quid pro quo* is a maxim which holds good of State aids, and a time might come when an unscrupulous use might be made of the power of subsidy. Besides, in this country, the State would never grant monetary aid to individual enterprise under any guarantees whatsoever. As the State could not possibly of itself undertake establishment and management, the adoption of some corporate form would be necessary with reference to the stage before the question of subsidy could be raised with any possibility of success.

A "National Theatre" implies an institution which, in its nature, is not either limited or fleeting. Such a scheme must be thorough, must rest upon a very secure basis, and must conform to the requirements of art, polity, and commerce. It must be something which, in the ordinary course of things, will, without losing any of its purpose or any of its individuality, follow with equal footsteps the changes of the age. In order to do this it must be large, elastic, and independent.

Let us consider these conditions.

Firstly, as to magnitude. As the national theatre must compete with private enterprise, and be with regard to its means of achieving prosperity weighted with a scrupulosity which might not belong to its rivals, it should be so strong as to be able to merge in its steady average gain temporary losses, either the actual loss of outlay upon unproductive pieces or the negative loss consequent upon political or commercial depression. Also its body should be sufficiently large to attempt and achieve success in every worthy branch of histrionic art. For this a great number of individuals would be necessary, so that suitable selection might in every case be made.

Secondly, the corporate body should be to a certain extent elastic. The production of talent in a country or an age is not always a fixed quantity; and whilst for the maintenance of a high standard of excellence no one manifestly under the mark of his fellows should be admitted, all those worthy of entrance should be absorbed. The evil consequent upon the accident of personal friendship, which so often works unfavourably amongst self-electing bodies, should be reduced to a minimum.

Thirdly, the National Theatre should be independent. Once established under proper guarantees, it should be allowed to work out its own ideas in its own way. Art can never suffer by the untrammelled and unshackled freedom of artists,—more especially when the idiosyncrasies of individuals, with the consequent possible extravagance, are controlled by the wisdom and calmness of concurrent opinion. Such a body as the corporate members of a National Theatre would, to a certain extent, be a legislative assembly, dealing only with questions affecting the drama.

Thus we arrive at the conclusion that if in this age a National Theatre is to be established, it must partake of the nature of a corporation, large, elastic, and independent. It must spring originally from personal enterprise, and must depend for existence upon the exertions of itself as a body, and of its component members as individuals, till such time at least when good work done in the past, and a uniformly wholesome influence upon the education and morals of the public, have given it a claim to recognition as an

institution worthy of a place in the machinery of the State.

Such a scheme once conceived, the next question is as to the possibility of carrying it into execution. In this country there is a great mass of talent scattered widely. It embraces every phase of thought and manner, and is composed of elements incongruous, and differing in value, in so far as the different individualities and their surroundings are concerned. To systematise and reduce to a harmonious whole this mass of heterogeneity would be a work of extraordinary difficulty. At the start the labour of organisation would be Herculean; and I cannot shut my eyes to the dangers or to the magnitude of the effort.

But if the difficulties of systematisation would be vast, the advantages would be vast also. The merits of the concentration of purpose of men following kindred pursuits have been tested already, and the benefits both to individuals and the bodies are known. Our art alone has as yet no local habitation, no official recognition, no political significance. Should the scheme of a National Theatre be carried out, great results might follow,—much good to the great body of aspirants to histrionic fame. Provision might, at a small expense to each individual, be made for the widow and the orphan. Old age would be divested of the terrors of want. A restraining influence would be exercised on unscrupulousness. A systematic school of teaching would arise; and the stage would acquire that influence and position which, whatever they may be in the present, are to be in the future great.

HENRY IRVING."

I must now come to an end; add a "tag," and ring down the curtain, entreating, not your applause, but your aid in a good and important cause. What is asked for is the provision of one theatre not wholly controlled by the predominant taste of the public,—the assured establishment of one house in which the best works of our dramatic writers, living and dead, should be constantly and worthily presented.

#### THE ELECTRIC LIGHT HUBBUB.

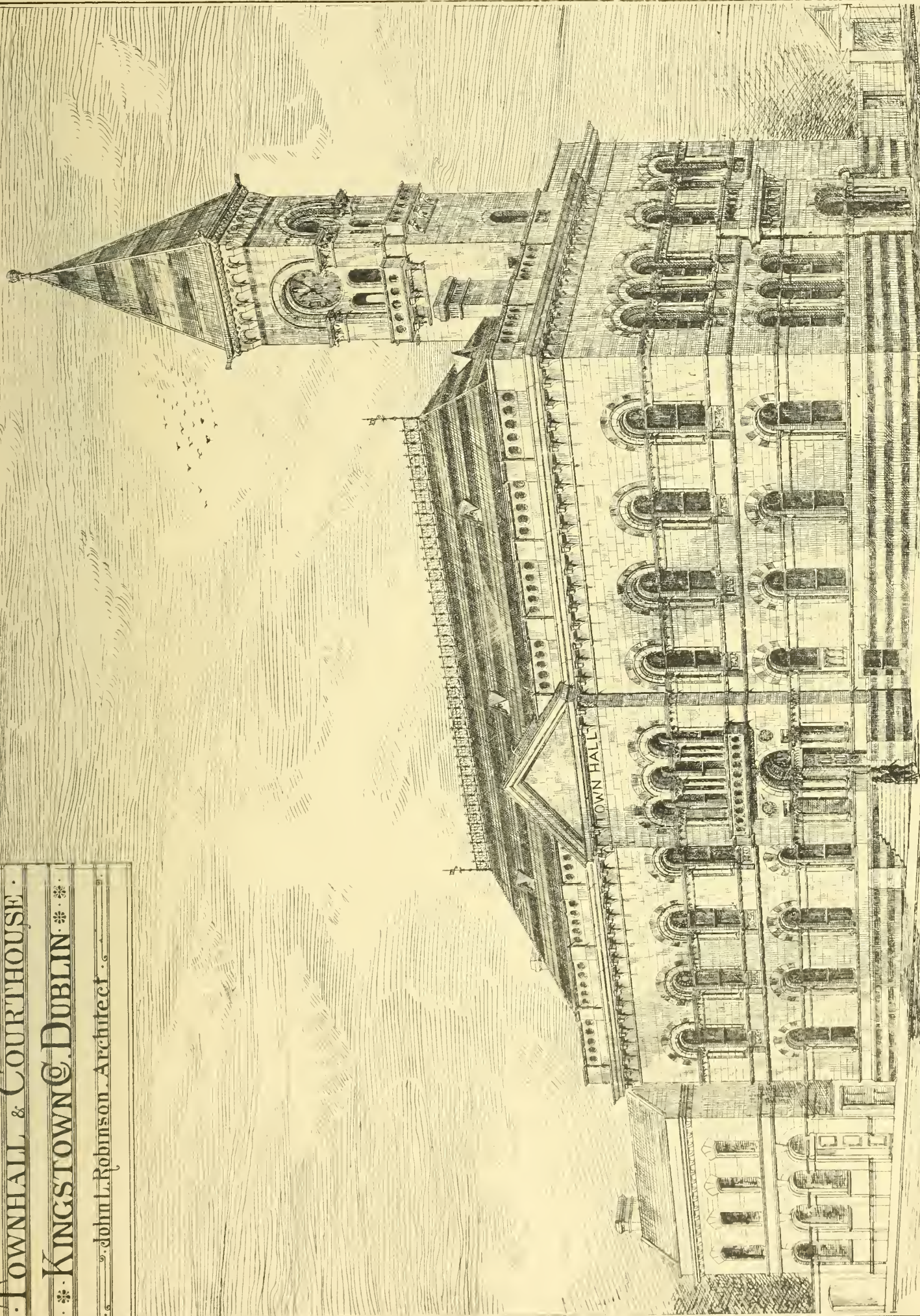
In the current number of the *Plumber and Sanitary Engineer* (New York) there is an article headed "The Electric Light v. Sensational Journalism," from which we cull a portion:—

"This journal has assumed to teach the public on the questions of drainage, water supply, heating and lighting. In this issue we devote more than our usual space to the latter subject. This was suggested by the interest excited in the public mind regarding the electric light. In our wonderful age nothing seems impossible to the inventor and discoverer. We, however, regret to see certain influential journals prostituting their high position by publishing absurd accounts of interviews that never took place, and attributing statements to such men as Prof. Edison and President Morton that they never made—all for the evident purpose of being sensational, and securing sale for their papers. This supposed newspaper enterprise is doing damage to many innocent people. It may be a source of gratification to some to hear it reported that "gas stocks are declining," but to such we would say that we cannot consider the shrinkage of any kind of property *taking place*, whether from real or imaginary causes, a matter of congratulation. A large number of holders of gas stocks have hitherto been widows, minors, and people of small means. The rubbish published in some journals about the wonderful "electric light" has alarmed these persons, and induced them to throw their shares on the market, to be gobbled up by better informed capitalists. That the electric light may some time become a formidable competitor to gas is possible, but to-day, we believe, it is not an accomplished fact."

The same excellent periodical contains the first instalment of a paper on "The Electric Light," from the pen of Prof. Henry Morton. As the subject is at present receiving public attention in all quarters, we make room for an extract:—

"In this department of electric lighting, the case stands, I believe, at the present day, thus:—

TOWNHALL & COURTHOUSE  
KINGSTOWN & DUBLIN  
John L. Robinson, Architect





Improvements in electro-motors (that is, machines for producing electricity, of which we shall speak further on) have given us relatively cheap electricity, obtainable with convenience wherever steam power is at hand; but the electric light regulators of to-day are not essentially different from, or much in advance of those of fifty years ago; and, while they will furnish a light reliable enough and steady enough for a vast number of uses, they are by no means fit for universal application, nor does the progress which they have made in the direction of improved steadiness hold out any strong encouragement to hope that much more can be done in this direction, unless some radically different method can be discovered.

Side by side with the development of the electric light which we have so far considered, and which may be defined as "lighting on the large scale," has gone a certain progress in the development of apparatus for the production of electric lights of small power, comparable in some sense with ordinary lamp or gas flames.

For this purpose the only means which has as yet shown even indications of practicability is "the incandescence of solid conductors." This depends upon the fact that when a powerful current of electricity is made to flow through an insufficient conductor, the latter becomes intensely hot and consequently incandescent (white hot).

In 1845 a patent was taken out in England by a Mr. King for an electric lamp constructed on this principle. It consisted of an air-tight glass vessel, within which a small rod of platinum or carbon was so placed that it could be heated intensely by the passage of a current. The air was removed from within the vessel, in case a carbon rod was used, to prevent its combustion. Small modifications of this plan have been made and extensively experimented with, from that time to the present, and from all I hear it seems highly probable that the carefully concealed, though much discussed, new invention of Mr. Edison has its foundation in the same action. I have no manner of doubt that Mr. Edison has made in this connection an admirable invention, distinguished by its simplicity and ingenuity from all that have preceded it, and that it has overcome the many difficulties which rendered King's lamp and its successors thoroughly impracticable.

In other words, from what I hear—not from the daily papers, but from reliable sources—I am prepared to expect in Mr. Edison's new "electric burner" something which is capable as a source of light of replacing an ordinary gas burner, when adequately supplied with a sufficient electric current.

With such burners Mr. Edison, without exhausting the powers of his 80 horse engine, will undoubtedly be able to light up his shop and laboratory, and even the adjacent houses. All this is no doubt in the near future, and it may be that the same system will be applicable in many of our large public buildings and hotels.

The step from this to the general replacement of gas is one, however, which I have not the least expectation of witnessing. The problem of carrying powerful currents of electricity for long distances, and of applying them in countless localities with economy, is one which (as I believe) calls, not for ingenious invention or combination of known properties only, but demands new properties of matter and new laws of electric force; and though it would be as foolish as unnecessary to say that anything short of perpetual motion may not be discovered, I feel very safe in acting on the opinion that the day of universal lighting by electricity will not come in my time."

### THE WHITEHAVEN HARBOUR AND DOCK WORKS.\*

WHITEHAVEN being situated on a bold and exposed coast, it was not surprising that many schemes had been brought forward for the improvement of the Harbour. In 1768, Smeaton proposed its enlargement by the construction of a north pier and other works. Many other schemes followed, but it was not until 1823, when Messrs. Whidbey and Rennie suggested the construction of the west pier, that practical steps were taken to further enlarge and improve the Harbour. The work was commenced in 1824; as the pier advanced seaward it became evident that the harbour was rapidly silting up. This was no doubt caused by the structure intercepting the shore currents, carrying with them sand and other matter in suspen-

sion. To counteract this deposition within the harbour, Mr. Rennie urged upon the trustees the importance of constructing the north pier, by which the current setting to the southward would be diverted. This suggestion was not adopted, and a few years later, when the west pier was well advanced, the shipmasters of the port memorialised the harbour trustees, to prevent the further extension of the structure, as the difficulty of entering the harbour had already been greatly increased. In 1833, after Sir John Rennie had again advocated the importance of proceeding with the erection of the north pier, the work was commenced. In January, 1836, during a severe westerly gale, one vessel out of a large fleet, in entering the harbour, fouled the crane engaged in completing a jetty at the end of the north pier. In consequence of this mishap and of other accidents to the shipping, a public meeting was held, and a copy of the resolution passed was forwarded to Sir John Rennie, who in reply, reminded the trustees that the pier-head of the west pier had not yet been constructed as he had recommended. Subsequently the spur at the end of the north pier was removed, and the west pier was completed by building a bold pier-head. The total cost of the works was about £160,000. On the completion of the west and north piers, the Harbour of Whitehaven became one of the most commodious and convenient in the channel, and many schemes were brought forward for obtaining wet-dock accommodation at the port. But it was not until 1871, when the trustees of the town and harbour obtained the "Whitehaven Dock and Railways Act," that practical steps were taken in the matter. The works were designed and carried out by Mr. Brunlees, V.P. Inst. C.E., the author being the resident engineer. In addition to the wet dock and railways, the works included the construction of new piers within the harbour, and the carrying out of other important improvements in connection with the port. The site of the dock was that originally proposed by Mr. Stiven, the surveyor to the trustees, and consisted of a portion of the north harbour and shipbuilding yard. This area was chiefly covered with sand, in some places of a treacherous and silty nature. Considerable difficulty was experienced in executing the work, owing to the north harbour having to be kept open for shipping. Progress was therefore tidal and intermittent in character. The dock was opened for traffic on the 22nd of November, 1876, the tidal water having been excluded from the area of the dock works in the previous April. The wet dock had a water area of 4½ acres, and was surrounded by quay walls 40 ft. in height. The entrance was 50 ft. wide, and the depth of water was 21 ft. over the sill at spring-tides. The old north wall was demolished, and a new pier, 50 ft. wide, was constructed, the North Harbour admitting a much larger class of vessel. The seaward face of the new pier was built of ashlar, set block in course, and surmounted with a parapet wall. The walls against which the vessels lay were built of rubble and concrete, the face being hammer-dressed, and laid in broken courses or sneaked, with a batter of 1 in 12. A portion of the foundation of the west quay walls was piled, and during construction a short length of the outer wall slightly settled immediately over the old channel of a land stream. This was arched over, and the wall carried up and surmounted by coping. In order to connect the north and south sides of the harbour for traffic, an embankment was formed across the beach in the inner harbour, the seaward face of which was protected with stone pitching laid to a slope of 1½ to 1. Upon this embankment the permanent way was placed, connecting the north and south sides of the harbour. Sidings were also laid round the several quays in connection with the London and North-Western and the Furness Railways. The crossing of the patent slip at the south end of the embankment was effected by a swing bridge; the weight of the bridge was 70 tons, and it could

be opened or closed by one man at the turning gear. The old timber slip was demolished, and a new one constructed further seaward; the extension of the railway of Pow-Beck, and the construction of a new quay across the end of the Custom House Dock, were also effected at the same time. The total cost of the construction of the wet dock, the harbour extension, railways, and all other improvements was about £100,000.

### DUBLIN AND ITS DEATH-RATE.

THE sanitary condition of the city was brought before the Chief Secretary for Ireland on the 20th ult. by a deputation from the Dublin Sanitary Association, accompanied by several members of Parliament. We print a portion of the report of proceedings as given in the morning journals:—

Mr. Maurice Brooks, M.P., said the deputation were anxious to present a memorial as to the very high death-rate which now unfavourably prevails in Dublin. The Sanitary Association was, so to speak, a self-constituted society as distinguished from the Public Health Committee of the Corporation. They disclaimed any rivalry with the Public Health Committee. They were of opinion that, with the aid of the Government and the holding of a public inquiry much might be done.

Mr. R. O'B. Furlong read a lengthened statement of the views taken by the association in the matter of City Sanitation.

The Hon. D. R. Plunket, M.P., said he did not intend to go into details, but he desired, as far as he could be permitted, to further urge the views of that important deputation on the attention of the Government, and to mention that the association enjoyed the almost universal confidence of the citizens; for if the Chief Secretary cast his eye over the list of vice-presidents he would see that not only did it contain the names of Parliamentary representatives of both city and county, but also the heads of the great medical corporations and other bodies of a similar nature. In fact, without regard to distinction of party or creed, the list represented every interest in the community. In view of the urgency of the application now made, he was really horrified to see that not only was the sanitary state of Dublin bad, but that there was an increase in the death-rate. That struck him as the most prominent feature of the situation at the present moment. During the three quarters of the present year just passed the death-rate of Dublin had risen from 28·9 per thousand to 30. That fact, he was sorry to say, placed Dublin in bad pre-eminence as the most unhealthy city in the three kingdoms. He, therefore, felt certain the Chief Secretary and the Government would give their best consideration to the subject.

Viscount Monck said he could not add much to what had fallen from the preceding speakers; but, as the lord lieutenant of the country, he thought it right to attend with the deputation. As a resident near Dublin, and also very much in that city, he was deeply interested in its sanitary condition.

Mr. Meldon, M.P., said he had been asked to say a few words as to the objects of the Sanitary Association. It was an association of scientific persons, who desired to assist the authorities in the carrying out of the Sanitary Acts. Its 2nd rule stated that the object of the association was to direct the attention of the authorities and the public to those points in which the existing powers for the maintenance of the sanitary condition of the city were not duly exercised, and to indicate where the machinery for that purpose was insufficient. In order to show what it had done he might state that when the Public Health Act was passing through Parliament, last session and the session before, the Association gave the members of Parliament who were entrusted with the bill the greatest assistance. There was no antagonism between the association and the legal sanitary authorities. On the contrary, it aided them. Lately an exhaustive inquiry was held into the local government of towns in Ireland. For some reason it was not within the scope of the Commissioners who held that inquiry to institute an investigation into the sanitary condition of the city of Dublin. The death-rate of Dublin was now considerably in excess of that of any other portion of the United Kingdom. It was useless to try to work sanitary measures unless the ratepayers were alive to the importance of them. One of the great objects of the Sanitary Association was to awaken public feeling, and to induce a desire on the part of the ratepayers that no expense should be spared that was necessary to put the city into a proper sanitary state. In England whenever an epidemic took place independent commissioners, possessed of

\* By Mr. J. E. Williams. Read at Institution of Civil Engineers (London), on Tuesday, 12th ult.

special qualifications, were sent by the Local Government Board to inquire into it. Such an inquiry as was now asked for would not only assist the efforts of the Public Health Committee, but would help to awaken public feeling in favour of sanitation. Last year an application was made to the Public Health Committee to join in asking the Government for an inquiry into the cause of the high death-rate in Dublin; and the committee alluding to the subject in their report, said—"It was suggested that an inquiry might be useful in awakening public opinion to the necessity that very active, energetic, and, possibly, costly measures should be adopted if the mortality of Dublin is to be reduced to a minimum. The hands of the sanitary authority would be thus strengthened. The committee are most anxious to do everything in their power; but they have frequently found themselves hampered by the want of public appreciation of the necessity for sanitary action."

Dr. Thomas Grimshaw said the memorial which they had had the honour of bringing under the notice of the Chief Secretary that day stated that the Association had been watching week by week the variations in the death-rate of the city. The weekly returns, taken by themselves, would be of little value as proving healthiness or the reverse, so the Association made it a custom of annually considering the more prominent points in connection with the death-rate of the city, and in their annual reports—especially in three of them—they had published documents drawn up by members of the Association. He wished to mention the last document first. This was a report of the Association for the year ending 19th July, 1876. At the time that that report was drawn up there was an inquiry, sitting in London, by a select committee of the House of Commons, before which he was examined. His evidence was taken then as to the rate of mortality of the City of Dublin and its surroundings, and it was recorded in evidence. That committee had not yet reported. The main feature in that evidence was this. First of all, that the death-rate for Dublin as usually published is rather misleading to those who do not exactly understand it. Now, they were at present considering the death-rate of the City of Dublin. The death-rate for ten years in Dublin district averaged 26·4 according to the returns. The death-rate within the city itself—the city proper—reached the average of 28·4, and according to the return made by the present Registrar-General when superintendent of statistics in the Registrar-General's office, the death-rate was raised to 31 within the city. This made the matter which it had to deal with more important, for the rate of mortality for the suburbs was only 20·1 per thousand. That might be higher, no doubt, than other suburbs situated as those of Dublin, but nevertheless it points out that the real extent of the death-rate depends on the city, and that any inquiry made into the matter should be specially directed towards a solution of the cause of the high death-rate within the city. It was generally stated that it was unfair to compare Dublin with London in the bulk, but it was surely rather a serious matter when they found that the death-rate of the city exceeds that of the most unhealthy of the London districts. The most unhealthy of the London sub-divisions are the east and central portions. The mortality in the central was 25·6 per thousand; in the east it was 26·5, against a registered death-rate of 28·4, or really 31, in Dublin. This was the most alarming feature of the whole return—that is, rate of mortality is increasing—as shown by the memorial presented to the Chief Secretary. There did not appear to be any general reason why Dublin should have this exceptionally high death-rate. Dublin stood in a healthy situation, the population was not nearly so dense as in some places mentioned. The population of the City of Dublin was only 65 per acre, whereas in the two districts in London it was 150 and 170. They knew that density of population was one of the most powerful promoting causes of unhealthiness. Besides that they also saw that the mortality, when any epidemic struck Dublin, was proportionately higher than elsewhere. It was a matter of some little difficulty to determine that fact, but taking other towns and their populations, they found that epidemics were more destructive in Dublin than similar epidemics elsewhere. Owing to the absence of registration of disease, which was unfortunate, they could not say how many cases occurred in Dublin or in any other city. In 1873, in the appendix to the report of the Association, which was compiled by Dr. Moore, it was stated that the deaths in Dublin from small-pox were, as compared with those in London, in the proportion of 5 to 3·2; deaths from measles in the proportion of 14 to 12, and from scarlatina, 22 to 7. There were other details given which pointed to similar results, and in 1874 a similar summary of figures was given, and the writer says "scarlatina was

eight times more fatal in Dublin than in London, and diarrhoea twice." It was a curious fact that although epidemics struck Dublin more severely, yet when they compared the mortality from zymotic diseases, which are generally considered more preventible, it appears that the rate in Dublin is only the average of the United Kingdom, and the fact that epidemics strike heavier on Dublin than elsewhere points to a low state of health in Dublin, which was a more serious thing than the destruction from zymotic diseases. It had been the custom in Dublin for some time to consider zymotic diseases alone as preventible, but even applying every gauge adopted by sanitarians they found the death-rate of Dublin was excessive. The subject was therefore a pressing one.

Dr. Head, President of the College of Physicians, said it was not necessary to add a word as to the necessity of the proposed inquiry. What they dreaded was that when any disease, such as scarlatina, made its appearance in Dublin, it progressed rapidly, and if they were to calculate the proportion of recoveries out of a certain number of cases it would be less than anywhere else. It was fully expected when a good supply of water was obtained that the death rate would diminish, but it had not. It was a curious thing, and might appear almost anomalous, that typhoid fever, which was considered to be caused by the bad water, really increased after the Vartry water was introduced. He could assign a probable cause for that, but they were not there for that purpose. They asked the Government to institute an inquiry into these things. Then again the escape of sewage from houses where disease existed, and the accumulations of sewage were favourable to the growth of disease. The value of life was great, and when they compared the death-rate of Dublin with the death-rate of other large towns, it became a very serious matter that every effort should be made to render Dublin more healthy. If measures were not taken the city would become more and more unhealthy, for there was no doubt that the soil on which the great part of Dublin was built had become saturated with sewage matter, which must have a very injurious effect.

Mr. Charles Dawson, T.C., said—The Public Health Committee under Mr. Gray had done good service, as indeed the Sanitary Association had done in promotion of the object they all had at heart—namely, the diminution, so far as possible, of the death-rate. He might remind the Chief Secretary that under the new act the Corporation had powers to borrow, and were, in fact, about to apply for £30,000 to complete the sewerage of the city. Almost every sewer had been ventilated, which caused a considerable improvement. They had also authority to enter private houses and see that the connection between the private drains and the public sewers was complete. In the more respectable and aristocratic localities the most dreadful types of these terrible diseases to which allusion had been made had occurred. In Fitzwilliam-square, for instance, a case of what was commonly called the black death took place, and, on inquiry being made, it was found that communication between the house and the public drain was found not to be sufficient. The result was that sewage permeated the soil, and produced most unhealthful exhalations. The Corporation had also passed, under a new act, a two-penny rate for domestic scavenging, and the result of that would be, he believed, a noticeable improvement. Now, they had also powers under the Artisans' Dwellings Act—powers of a most beneficial character, and they were clearing away overcrowded areas. Dr. Grimshaw had not acted quite fairly as to dates. He started from the year 1874, when the Public Health Committee got sanitary powers, and drew attention to preceding epidemics. The city returns for last summer, when a smallpox epidemic was at its height, showed a death-rate of only 28. The Public Health Committee had been congratulated on the efforts they had made to check that disease. He found that in the city of St. Louis, which had a population of 500,000, the death-rate was only 12 per 1,000.

Dr. Grimshaw said he had no intention of doing anything unfair, but Mr. Dawson was in error as to the time during which the Public Health Committee had had sanitary powers. They had had those powers since 1866.

The Chief Secretary—Gentlemen, I cannot at all wonder that I should have had the pleasure afforded me of receiving this deputation. The subject is one of paramount importance; and I should say that the most superficial observer walking for the first time through the streets of this city could not fail to be struck with a sense of the state of affairs which makes the existence of an association such as that which you so worthily represent a matter of no wonder. Now, I may say that the state of the river is, in my opinion, a public

scandal. Without going into the causes of it, I think that will be universally admitted. I say thus much as to the existence of an evil which I think cannot in any quarter be called in question; but the remedy is by no means so easy to discover. Something was said just now, incidentally, respecting the Corporation. The gentlemen who last said a few words is, I think, connected with that body. Many corporations are in the habit of forming ambitious schemes which may not unfrequently be supposed by their critics to be not wholly disconnected with the ambition of the individuals who promote them; but I think the Corporation of Dublin have been very right in observing caution with regard to these wholesale schemes for spending their constituents' money, which find such favour in other quarters. I feel assured that the Corporation have every desire to carry out to the utmost of their power any scheme which can be suggested to them as free from defects. Something was said about details in connection with closets. I have no hesitation in saying, from knowledge which I have acquired on the subject in connection with other departments, that the very existence of those arrangements has been in the great majority of instances a serious public evil. I don't wish to open up controversial topics, but would merely say that the short-cut to complete sanitary reform that is supposed to exist through the universal establishment of closets is, in my opinion, a hazardous remedy. I think the Government have shown by the part they took, and by the able management of my right honourable and learned friend who sits near me, in the passing of the Public Health Act, that we are by no means insensible to the very extreme importance of this subject. With respect to the inquiry which the deputation have suggested I shall consider how far any steps can be taken with the view of obtaining information in order to enable this subject to be dealt with. I wish to guard myself against acquiescing in any special form of inquiry, but the whole subject shall certainly receive the anxious attention of Government.

The deputation then withdrew.

## ARCHITECTURE AT THE PARIS EXHIBITION.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE gentlemen appointed to serve on the Institute Committee for the Paris Exhibition have furnished the council with a report of their proceedings. They say:—

"The total number of drawings and photographs hung was 171. They were sent by sixty-four contributors. They completely filled the gallery allotted to them, which was a fine top-lighted room, measuring 47 ft. by 20 ft. 6 in., permitting the exhibition of drawings not only on the walls to a reasonable height, but also on a screen in the centre of the room. The gallery, it may be useful to record, was coloured a dark red. It had a moulded dado, painted black, about 2 ft. high, and no drawings were hung below the top of this dado, or, as a rule, higher than 11 ft. above the floor. The ceiling was of white muslin drawn across at some distance below the actual skylight. The floor was covered with matting of a cinnamon ground, ornamented with chocolate lines; and the effect of the whole may be considered to have been successful.

The general principle pursued in hanging the drawings may be broadly stated as an attempt to form them into groups, each with a conspicuous contribution or cluster of contributions as a centre, each group to occupy one wall or portion of a wall. At the north end of the gallery the central drawing was a view of the late Sir Gilbert Scott's Edinburgh Cathedral, and the chief drawings round it represented Gothic buildings, most of them ecclesiastical. On the east wall there were two groups: the central contribution of one was a large drawing of the Law Courts, and drawings that seemed to be in character were hung round. The centre of the other group was formed by views of Dulwich College and Burlington House, and this part of the wall was chiefly filled by domestic and secular works of Renaissance architecture. The south end of the room had for its centre a large drawing of part of the Manchester Town Hall, and a series of secular and domestic buildings, for the most part of pointed architecture, were hung there. In the remaining group, which was a very large one on the west wall, the National Gallery, the City Markets and Guildhall Library, St. Thomas's Hospital and the Liverpool Exchange formed the nucleus of a collection of Renaissance buildings, chiefly secular. One side of the screen was wholly devoted to photographs, and it was most fortunate that some such means of separating them from the drawings could be found. The other side of the screen was appropriated to delicate

drawings, to a large extent showing coloured decoration.

The committee feel that they may fairly congratulate the Institute upon the excellence of the contributions exhibited, and in this they are borne out by the opinion expressed, as will be hereafter stated, by the International Jury of Architects. They regret that a larger number of architects of position in all parts of Great Britain did not see fit to offer contributions; but making every allowance for the absence of important works which might have been contributed, they regard the exhibition as a good representation of the architectural work of the day."

### THE AMALGAMATION SCHEME *RE* SCIENCE AND ART MUSEUM.

WE briefly alluded in our last issue to the report of the council of the Royal Dublin Society brought up at the stated meeting on the 14th ult. The negotiations between the Society and the Science and Art Department have been for several months dragging their slow lengths along. The Government have been throwing the onus of the delay upon the parties interested in Dublin, while the latter are making it clear that the responsibility does not rest with them. As we have already more than once discussed the bearings of the question, we will content ourselves with giving that portion of the Royal Dublin Society's report, dealing with the question:—

"Since the last stated general meeting of the society, the council have been in correspondence with the Department of Science and Art in respect to the carrying out of certain clauses of the agreement of March 5th, 1877. The delay that has taken place in these negotiations has been exceedingly embarrassing to the society, both in the discharge of its agricultural functions and in the conduct of its scientific work. The contemplated amalgamation with the Royal Agricultural Society has necessarily been delayed, and the state of suspense and uncertainty which has been so long imposed upon these societies cannot have failed to exercise an injurious effect upon important interests in this country. It will be remembered that the proposed scheme for amalgamation drawn up by the joint committee of the Royal Dublin Society and Royal Agricultural Society of Ireland, was 'dependent upon the Government undertaking to extend to the New Royal Irish Agricultural Society all the advantages to agriculture contained in Lord Sandon's letter of February, 1876, and the agreement of the Government with the Royal Dublin Society of the 5th of March, 1877.' The Government felt a difficulty in dealing with any other society than the Royal Dublin Society. But with the view of removing obstacles to amalgamation that would thus arise, it has been proposed by the Government to hand the society the sum of £25,000 in lieu of the obligations of Clauses 9 and 10 of the agreement, and the part of Clause 1 which relates to agriculture. The clauses referred to are as follows:—I. The Government will allot to the Royal Dublin Society in Leinster House such accommodation, free of rent and taxes, as in the judgment of the Government is sufficient for the functions of the society still remaining to it in science and agriculture. The conditions of occupation will be the same as those accorded to the learned societies in Burlington House. The Government will either allow the agricultural shows of the society to be continued in Kildare-street, affording equal facilities to those enjoyed at present, or provide, either by grant or by lands and buildings, for a transfer of the shows to some other convenient place. The Government will inform the society, as soon as possible, whether the shows will be left where they are, or removed. 10. If such transfer is effected, account shall be taken of any loss the society may be subjected to by reason of the removal of the shows from the centre of the city to the suburbs, or by discontinuance of the aid given in the maintenance of the buildings, and the Government will ask for the votes accordingly. The Council have agreed to the proposal, so far as it relates to Clauses 9 and 10, but they have expressed their strong reluctance to propose to the society the sacrifice of any part of the office accommodation which the Government undertook to provide for the society's agricultural work in Leinster House. A deputation recently waited upon his Grace the Lord Lieutenant, and urged the importance of adhering to the original intention of Clause

I of the agreement, chiefly on the ground of the importance of keeping up the continuity of the future operations of the society in agriculture, with the historic associations of the past, of which this society is justly proud, as they go farther back than those of any other agricultural society in the United Kingdom. His Grace promised to represent the views of the deputation to the departments of her Majesty's Government specially concerned in the transaction. Negotiations having arrived at this stage, the council now await the decision of the Government. It is to be hoped that the terms proposed by the council will meet with the approval of the Government, as the society will then have secured to it for the future the utmost independence of action, and will be in a position to propose the new charters which the altered circumstances of the society have rendered necessary. The council trust that the temporary accommodation to be allocated to the society in Leinster House will be soon defined, and the undertakings of the Government fulfilled, as at present great inconvenience is sustained for want of definite arrangements."

### THE NEW (CONCRETE) TOWN HALL, ARKLOW.

THE new Town Hall of Arklow was opened on the 20th ult., by the Lord Lieutenant, who also on the same day took occasion to visit the harbour and the Manure Works of Wicklow Copper Mine Company. The Town Hall building, which is Gothic in style, is of concrete materials, and is the work of Mr. Townsend Trench, built for the Earl of Carysfort, the lord of the soil. Arklow has only recently come under the provisions of the Towns' Improvement Act, and the Commissioners have not as yet been enabled to do much for the improvement of the town, or to avail themselves of the offer of the Government towards the restoration of the harbour. New cottages have been erected by Lord Carysfort for his labourers at Kildarra, with gardens attached; and we hope that elsewhere through Wicklow other lords of the soil will follow the good example.

### NEW TOWN HALL AND COURTHOUSE, KINGSTOWN.

IN our present number we give a view of the new Town Hall and Court House, at Kingstown, Co. Dublin, now in course of construction from the designs and under the superintendence of Mr. J. L. Robinson, architect, 198 Great Brunswick-street. The building occupies a capital position at the junction of the Royal Marine and Crofton-roads, and in close proximity to the station of the Dublin, Wicklow, and Wexford Railway. It is in the Italian style of architecture.

The erection of a suitable Town Hall had been determined upon some sixteen years ago, and at length, and after many delays and changes, the matter came to an issue, and the result will shortly be attained of a building which will be a marked addition to this improving township.

To the Royal Marine-road there will be a frontage of 130 ft., and to Crofton-road of 100 ft. The main entrance to Town Hall will be in centre of first-named façade. Entering through the massive doorway from a broad flight of steps, we reach a hall 22 ft. by 16 ft. On the left are offices for the town clerk, surveyor, sanitary inspector, rates collector, &c. A grand staircase leads to the assembly-room, a fine apartment 70 ft. 6 in. by 41 ft. 6 in. This room will be available for concerts, &c., and will probably be well patronised. The commissioners' room will be on the second storey, and will be 39 ft. by 30 ft. Here also will be the town clerk's apartments, which are well planned.

The entrance to the court is from the Crofton-road, through an imposing doorway

on the ground level. In connection there will be the necessary accommodation for legal gentlemen, witnesses, &c., as well as jury-room, lavatories and closets. Surmounting the Court House entrance will be a tower 120 ft. in height, in which will be a clock.

The principal material used is granite from a quarry in the vicinity, with Bath stone for dressings, &c.

The contractors are Messrs. Meade and Son, Great Brunswick-street.

The cost (including fittings, &c.) will be about £13,000.

The ceremony of laying the "corner-stone" was performed on the 20th ult., by the Chairman of the Town Commissioners, J. J. Crosthwaite, Esq., J.P., in presence of a large assemblage.

### THE ALLIANCE AND DUBLIN CONSUMERS' GAS COMPANY'S NEW BILL.

THE bill promoted by the gas company is rather a long and elaborate one, and they seek considerable powers of which the following are the headings:—Purchase or acquisition of lands by agreement, or compulsorily, construction of tramways, and provisions relating thereto, coal sheds or warehouses, portable gas for tramways, &c., increased powers to inspectors of meters, powers for the company to manufacture and deal in heating and cooking apparatus, gas engine and other apparatus for heating and producing light, and to use the same, to acquire patents to levy rates and charges, and to apply the funds of the company for the purposes of the bill, agreements with public bodies and others, incorporation and amendment of acts and other purposes.

The scheme as detailed at length suggests several important considerations that have no right to be coolly overlooked, either by the Corporation or the ratepayers, without being thoroughly canvassed. Take the following as a sample:—5. To authorise the company to enter upon and open the surface of and to alter and stop up remove and otherwise interfere with streets, roads, lanes, ways, footpaths, highways, railways, tramways, bridges, canals, rivers, streams, watercourses, sewers, drains, pavements, thoroughfares, passages, and other places, and with water-pipes, gas-pipes, and electric telegraph-pipes, tubes, wires, and other apparatus for the purpose of constructing, maintaining, repairing, removing, renewing, altering, or reinstating the proposed tramways, or for all or any other the purposes whatsoever of the bill.

Nothing is sacred to railways, tramways, or gas companies. Directors and shareholders look to large dividends, and have little concern as to the beauty of a city. They are not lovers of art or indeed nature, and the preservation of national memorials or monuments never enters into their minds. They would upset a public statue and undercut or demolish a historic building with the same indifference as they would pick up a pavement and lay down their rails and pipes.

### BOOKS RECEIVED.

"Remarks on the Irish Dialect of the English Language" (review in type); Cassell's "Dictionary of Mechanics," part 24; "Great Industries of Great Britain." From W. W. Gardner, London:—"Chatterbox Album," "Parish Magazine," "The Prize," "Chatterbox," &c.,—all marvels of cheapness.

### DIED.

ON the 25th ult., at Lansdowne-road, Mr. Robinson Carolin, of the late firm of J. and R. Carolin, Lower Abbey-street, builders and contractors.

## SCIENTIFIC AND TECHNICAL EDUCATION.\*

THE lecturer commenced by remarking that the subject of technical education had been for some time attracting great attention. Much had been written and spoken on it in the United Kingdom, and if all that was stated were true with respect to their position, they were still far behind most of the Continental nations in technical education. The reasons which had been assigned for our backwardness were twofold—first, the Continental nations had cultivated technical education for a longer period than we had; and, secondly, that sufficient money had not been supplied for the cultivation of art and of those sciences upon which depended the invention of new manufactures, improved processes in those already existing, and greater economy in carrying out those in use. But he did not consider these reasons sufficient to account for the inferior position they were said to occupy in this respect when compared with other countries. The investigation of the subject, made by a committee of the Society of Arts, London, in 1853, showed that they had been long alive, at all events, to their educational deficiencies, for the report then made gave an extract from the society's transactions for 1787, demonstrating that so far back as that the society had stirred in the matter. He could not find that any of the evidence given in 1853 went to show that they were in a worse relative position at that time in respect to technical education than they now were as compared with France; yet the amount of money spent by the nation on scientific education had increased enormously. If they were so far behind France they must be in a still worse position as regarded Germany, for in a report by a committee on the subject, appointed by the French Government some years ago, it was admitted that, taking technical education in its entirety, France was behind Germany.

During the financial year ending the 31st of March, 1851, there was expended on what might be termed technical education £34,855. In the same year Parliament voted for public (primary) education in Great Britain £125,000, and for Ireland £125,000, and they must bear in mind that the grant voted by Parliament for national schools in England was comparatively a small sum compared with that which was raised by the voluntary contributions of the people.

During the financial year ended the 31st March, 1855, there was expended on science and art institutions (technical education) which were then being grouped under the Department of Science and Art, which department had been created in March, 1853, £80,000. In the same year Parliament voted for public (primary) education in Great Britain £263,000, and for Ireland £193,000.

During the present financial year ending the 31st March, 1879, there would be expended on science and art institutions (technical education) forming the Department of Science and Art £307,414. In this year the Government grant for public (primary) education for England and Wales was £2,149,208, for Scotland £497,612, and for Ireland £651,000.

But the institutions under the Department of Science and Art were not the only State institutions which might be said to diffuse technical instruction. The grants this year voted by Parliament had been—British Museum, £112,990; National Gallery, £11,983; National Portrait Gallery, £2,000; learned societies, £17,050; University of London, £10,944; Deep Sea Exploring Experiments (Report), £4,000; Paris International Exhibition, £36,700. For Scotland there was voted—For the Board of Education, £2,435; universities, £18,574; National Gallery, £2,100. For Ireland there was voted—For Endowed Schools Commissioners, £640; National Gallery, £2,389; Queen's Colleges

and University, £17,779; Royal Irish Academy, £2,481—making a total, with the preceding sum, of nearly £4,000,000; and that did not include all the cost of these institutions. The grants for the buildings and keeping them in repair, the furniture, fittings, stationery, printing, &c., were voted under other departments.

Then again they could not neglect to take into account such valuable non-Government institutions as the Owens College, Manchester, the capital funds of which, as far as he could make out, amounted to nearly £40,000; the Yorkshire College of Science, the similar institution at Newcastle-on-Tyne; King's College, and the University College, London; the one about to open in Birmingham, the building and endowment of which was due solely to the munificence of one gentleman, Sir Josiah Mason, and the very large sum which Sir Joseph Whitworth had given for the improvement of technical education. These facts, he thought, supported him in the opinion he had formed that it was not from the want of money that they were behind Continental nations in this matter. Nor could the backwardness be owing, in his opinion, to any inferiority of their mental powers, as compared with the people of other nations. That they had the inventive faculty was shown by the numerous mechanical and chemical inventions that were yearly produced, and very frequently by those who had been self-taught in science.

Admirable as our State constitution was in most respects, it was yet not without defects. One of these was the frequent want of unity of design in Government institutions intended to promote the self-same object, the result being that the means employed were not administered as economically as they would otherwise be, nor were they as efficient in accomplishing the desired object. The complete and perfect organisation of the different educational institutions in Germany astonished the French Commissioners. . . . .

In no part of the Empire was there a greater need for a sound system of technical education than in Ireland; the raw materials required for most larger industries, if they existed at all, existed but in small quantities, and those that were of importance, as the metallic ores, were either being exhausted or were being superseded by a richer material from foreign countries; thus, for example, the Berehaven Copper Mine had to be all but abandoned.

But competition was as rife with agricultural produce as with manufactured goods; and it was not to be supposed that the competition had reached its limits in this direction in these countries. It was unlikely that the best and cheapest modes of preserving meat and other provisions during transportation had been discovered. This, like all other human inventions, must admit of improvement, whilst the boundless prairies, plains, hills, and savannahs of the world, which were continually becoming more accessible to them by the aid of rail and steam, fattened cattle for the butcher without meat taxes, labour, or wages. When Russia was without roads she could only send her supplies of grain in dear years on pack horses. She now yields her harvest to us by the iron road every season. In the present year they had sent out of this country, according to Mr. Caird, £120,000,000 for articles of food, being at the rate of £15 per family. It was evident that the reduction of meat and provisions to the lowest living cost must in these countries be only a question of time. Although the British farmer raised more per acre than the most favourable conditions of soil and climate could show in other countries, yet in order to compete with foreign importations he must conduct his agricultural operations more economically than at present, and increase his production at the same time; for this he must look for aid from chemistry and the other sciences. The sewage must be utilised into a form best adapted for the land, and he (the Professor) thought that could be accomplished. Then again they heard of unexhausted manures. Was it in accordance

with sound commercial principles to add to the ground in one year such an amount of manure that it remained unexhausted for several years? New industries were, therefore, required in Ireland to occupy, if for no other reason, the place of those becoming dwarfed by competition; and there were many which might be as successfully carried on in this country, as regarded material conditions, as they were in France and Germany; the enterprise required to originate these industries would, he thought, be forthcoming, were the scientific knowledge and skill existing. The progress in industries, not alone in this country but in others, seemed only to be limited at the present time by the want of the necessary scientific and artistic knowledge.

## BOOKS RECEIVED.

*A Descriptive Treatise on Mathematical Drawing Instruments, &c., with Hints upon Drawing and Colouring.* By William Ford Stanley, M.R.I. Fifth Edition. London and New York, E. and F. N. Spon, 1878.

THE fact that this work has already reached a fifth edition should of itself be sufficient evidence of its merits. In a clear and simple style the author, with the aid of some hundreds of beautiful wood engravings, describes the many instruments which in this enlightened age are found necessary in the architectural and artistic domains. In order to embrace the latest improvements in drawing instruments as well also of those of an entirely new character, he has been obliged to add about 50 pages to this edition. We have chapters on the Pentagraph, the Antigraph, the Centograph, the Conchoidograph, the Eidograph, and other 'graphs' of which perhaps some of our readers have never heard.

We had marked several passages worthy of quotation. In hope, however, that from what we have already said, the work will be patronised in the way it justly demands, we will content ourselves with extracting what our author says on "Perspective":—

"The best results of linear perspective can scarcely be held to be artistic. This occurs, not from defect of the instrument [the centrolined], but the principle. In making a linear perspective of a building the eye is supposed to be placed in exact opposition to the most prominent angle, and this angle from the width of the face of a building, compared with its depth, has very frequently to be placed near one side of the drawing. Now, in looking at any drawing, we take our view from the centre of it, and by the principles of linear perspective applied in other instances, all horizontal lines should vanish from this central position. It is also the fact that all vanishing lines should tend to vanish in some degree towards both hands from this point. Therefore a line, although vanishing by perspective rules all to one hand, if it passes the centre of the picture, should vanish to the other hand also, in a certain degree; therefore, if the line were above the point of sight and pass the centre, it should round upwards. And if we draw the line straight, as it is done universally by the rules of perspective, such a line appears to be hollow, and the perspective angle, now assumed to be towards the side of the drawing, appears much too sharp for natural effect. This principle of drawing gives professional architectural drawing a most unnaturally stiff effect, as may be observed by looking over those exhibited annually at the Royal Academy, that is, to any one not used to the system. For the drawing to look real, all the upper lines, and indeed all lines that vanish past the centre of the drawing, except, of course, the horizontal line on the point of sight, should be curved, but the upper ones especially so.

Some professionals to whom I have mentioned this matter do not appear to see it as I do. It appears to me to be easily explained. Thus, that if we stand facing a long high wall, the part that is immediately opposite to us appears level; but as we look away on either side the perspective vanishes, and should be represented to do so. The wall would appear to us, in this case, if our view could include the whole of it, as a very flat hyperbola. It is also clear that if we observe from any point of a vanishing line that passes the centre of our view, that this must appear to do so also. For if the vanishing perspective line were extended until it reached behind us, the same conditions would occur as though

\* By Professor Galloway. Delivered at Royal College of Science for Ireland, on the 23rd ult.

we viewed the long straight wall directly and obliquely. It might be thought upon this principle that heights and vertical lines should also vanish into the distance. And by equivalent laws to those applied to linear perspective on the horizontal, this would certainly be the case. But no correction is needed for the vertical lines. The form of the retina and crystalline lens of the eye possibly corrects the difference of vertical angles in some mysterious way of which the writer has never met with satisfactory explanation; so that if we look at a straight diminishing column, it appears to the eye hollow or smallest in the centre, which is presumed to be from over perspective correction in the eye. Therefore, columns are made rounding outwards, to produce the effect of equal diminution. But if we look at a wide parallelogram or building, all the apparent incurvation disappears, so that we must infer that no correction is needed in the perspective for this, although it is needed in the horizontal, where the eye takes correct cognizance of the angle subtended. I should not introduce this matter, only that it may be remedied very much by simple means, and linear perspective drawings even be made to look artistic."

The work has, we believe, been included in the list of prizes to the students in the Science and Art Department. To these we would recommend an attentive study of the chapters on drawing and colouring—they are invaluable.

*Eason's Almanac and Handbook for Ireland for the year 1879.* Dublin: W. H. Smith and Son.—We are happy to notice a marked improvement in this, the sixth, issue of this almanac. "The Calendar of Events" has been thoroughly revised, and it now contains only such as are connected with Ireland and Irish history. Mr. Eason has embodied in the present issue several original articles on important Irish questions, and which we need not stop to enumerate. In the chapter devoted to "Legislation for Ireland," he passes under review such topics of a public nature as were discussed in Parliament during the year. At pp. 93-95 we have a paper on "Timber Culture in Ireland," by "an Englishman who has lately been engaged in travelling throughout the whole length and breadth of Ireland, with the clearly defined object of studying its physical and social characteristics, and its natural and artificial resources." We shall merely say that this article is worthy of study, for many reasons, by "every patriotic Irishman."

*Calvert's Mechanic's Almanack and Workshop Companion, 1879.*—The issue of this almanack for the coming year fully sustains the opinion we felt called upon to pronounce on a former occasion. The matter is almost entirely new in each succeeding publication. The selections made of topics relating to the various trades are very judicious, and add greatly to the value of the work. We will sum up in the words of the prospectus before us, and cordially say that in its pages there is "a blending of entertainment with instruction." It is published in Manchester.

*Hamand, and other Poems.* By E. S. Littleton. London: E. W. Allen.—A little book of poems, entitled "Hamand," has reached us, and, with the recollections of ten score of bantling votive offerings to the Muse unpleasantly fresh in our remembrance, we set to peruse the most recent addition to the number, with feelings such as we at least have never associated with a comfortable frame of mind. We acknowledge that we had but slight grounds for such apprehensions, and that the perusal of Mr. Littleton's poems has afforded us keen enjoyment. The chief work in the book is the dramatic poem from which the title is derived, and which, in the mystery of its plot and the not unfrequent intensity of its detail, reminds us of the style after which the Elizabethan plays, especially those of Philip Massinger, were modelled. Had space permitted, we should have sketched the plot of "Hamand," and introduced Mr. Littleton's work by means of a few select quotations; but, as we are precluded from doing so, we shall add our high appreciation of the vivid colouring and the sweet music which sparkles throughout this closet play,

mildly and agreeably—seldom impeding with useless glitter the progress and development of incident and character, but mingling itself with them, and raising them above the prosaic level of common life. We may add that three shorter poems combine with the dramatic work mentioned to form a delightful and cultured book.

*Arrows of the Bow* is the title of the Christmas number of the *Quiver*, published by Cassell, Petter, and Galpin. It contains several very readable stories, with suitable illustrations.

### THE PRESIDENT'S ADDRESS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

For the third and last time it has become my duty and privilege, as your president, to welcome you to the commencement of another session of professional intercourse, no less pleasing to us all personally than useful, as I hope, in furthering the very worthy objects for which we are corporately united. At the same time, having in my two former annual addresses dealt with very many of the subjects of prominent interest to professional men, whether as artists or as men of business, I feel some difficulty in now offering to you observations sufficiently worthy of your regard. Not indeed from any lack of matters of deep interest to us all which are continually, year by year, coming forward and claiming notice, but in consequence of my want of sufficient time to consider them all as they deserve, no less than from lack of sufficient ability to deal with them exhaustively, and to deduce from their consideration all the advantages which they might perhaps be made to render to us. However, knowing that I may count on your indulgence and consideration, I will address myself as best I may to the task that lies before me; and in doing so I think that perhaps I cannot do better, after placing before you, as is customary, some memoranda of a statistical nature connected with the Institute in its last year's life; and after asking you to remember with me the friends who have passed away from among us since this season last year—to take a review of the comparative position of the Institute and its members in 1876, when you first called me to this chair, and its position at the present time—in other words, to render an account of my stewardship.

With regard to the number of our members in my address of 1876, I was able to point to a considerable increase of members in the year then last past (viz., twenty-seven new members) as being beyond the average of the preceding years. I am now able, even starting from the vantage ground of 1876, to announce a considerable further growth. Taking first for examination the class of our strictly professional members—far from diminishing—they have increased during the above two years from 615 to 643, and, as within that period fifteen have died, the real increase is forty-nine, or about 8 per cent. When we add to these the classes of our non-professional members, viz., honorary fellows and honorary associates (and notwithstanding the abolition of the class of contributing visitors), we find that the total number of members in 1876 was 636, while at the present time it is 738, an increase of 102, or about 17 per cent.

Once more, when we compare the roll of our non-metropolitan members then and now, we meet with no less gratifying results—Some few—very few—have left us since the subscription was raised, but taking those who are with us still, and including those who have presented themselves for election since, all of whom willingly pay the full subscription, we find this result. In 1876 we had 272 non-metropolitan members, in the interval six have died, and we have now 290, showing, therefore, an actual increase of twenty-four, or 9 per cent., in that class of members only. That much larger increases in our numbers may take place I sincerely hope, and, without being too sanguine, I think I may fully expect.

I congratulate our members on the satisfactory state of our finances. Some among us feared, I know, that in carrying out the changes of the last two years our funds would suffer much fluctuation and possibly ultimate loss. It is not so, as a few figures will make abundantly evident to you. In 1876 our income (exclusive of all trust moneys) was £2,153, while in 1878 it is £2,417, up to the present time showing an increase of annual income of no less than £254, or nearly 12 per cent., and I see no reason why this increase shall not continue. I may further mention that our invested capital at the present time (exclusive of the trust investments) is £5,512; and I name this in reference to the expenditure which may be temporarily necessary for our better accommodation, pending the gradual, but I hope certain, increase of members' subscriptions for these purposes, when the money so taken can be gradually repaid, and after which our investments will, I hope, soon considerably exceed their present amount.

During the two years, from 1876 to 1878, our already valuable library has largely increased, for in 1876 it contained about 3,000 vols., and now there are 3,500 vols. (exclusive in both cases of periodicals), about 380 vols. having been purchased or presented to us since last year. This has been greatly due to the augmentation of the purchasing fund from the entrance donations of our honorary associates, but, even independently of that, we have had a good store of cash in hand.

Am I to congratulate you that the "illustrious stranger," the Egyptian (now British) obelisk, has at length quietly settled among us? On the whole, I suppose I may, but it is with no unmixed feeling. A public, professional and lay, tired out with giving "unheeded" suggestions,—at last left to those immediately interested the decision of the question as to site and treatment in which the public would, if more permitted, have taken even a deeper interest. The result is before us, and the weary wanderer is at rest. But how? Quietly luried (I mean erected) in this great Babylon among houses and buildings that overtop it; squeezed into an unpretending nook obtained with difficulty from our corporate Ediles. A monolith of unknown age,—a witness of a period past so remote as to be realised with difficulty,—a mass of 200 tons in weight, evidencing a labour and probable sacrifice of human life at its birth which must be left to the imagination,—finds itself upreared on a pedestal composed of small stones (old materials in fact) instead of on a monolithic mass worthy of itself; pushed into a waste corner of our river wall, central with nothing around, and lastly, on a low level instead of on such an elevation as might add to its importance in place of lessening it. How differently, and with how much dignity and taste, our French neighbours have treated their Obelisk in the Place de la Concorde we must all be too painfully aware. In deploring the result, which I think could hardly occur in any other European metropolis than ours, be it fully understood that I do not detract a jot from the well-merited praise and sympathy due to the zealous private citizen and the talented engineer, who with so many unexampled difficulties, have yet brought to us this relic of the past. But what I deplore is that our national or our hardly less powerful municipal Government did not take the matter into their own hands so far as regards a suitable site and a dignified treatment of the monument as to its substructure, and did not undertake to secure the best and most impressive surroundings for such an addition to the interest of this metropolis.

The question of architectural competition seems next to demand a word from me. A vexed question this among ourselves and among outsiders. A condition of things created and maintained entirely by ourselves, and, as I think, an unhappy condition of things for all parties, wherein we are placed in the position of "touting" for work which should come to us as a right and a compli-

ment. Heartburnings, disappointment, and jealousy are the children of the system; while the specious suggestion, that by this means alone, or chiefly, true merit is to be unearthed and recompensed, emanates surely from some malicious sprite who joys in our distress and divisions. The mistaken public view of competitions is, of course, largely due to our young and zealous architects who desire sometimes to run before they can walk, and rush into attempts, repeated to their sorrow again and again, which, alas! bring only occasional success against enormous disappointment. They would really gain, if they could only think so, by doing patient, quiet, and even unknown good works, bringing no disappointment and only delay in the recognition of their power, which then becomes by experience greater day by day. Such quiet labours, such gradually developed talents, would bring them under the eye and judgment of their seniors, and would surely bring to real merit its due reward; in due proportion to that merit would those of real genius become separated from the ranks, and without the heart faintness arising from frequent failures, without the loss of time and money which can oftentimes be ill afforded, that belong to the present system. No other profession than our own is placed systematically in this position, yet the "men of mark" arise from their respective ranks in each profession as they have the right and title to do. Why should we alone induce the public to hold us cheap by cheapening,—I had almost said,—obliterating ourselves?

An occurrence within my own knowledge during the past year has led me into these remarks, and may have some interest for you. In March last the Commissioners of Hove, in Sussex, desirous of obtaining a design for their proposed town hall, inquired of me, as for the time being president of the Institute, whether in my opinion, "with a view of avoiding the unseemly discussions that have recently taken place with regard to open competitions, an open competition for such a work would be desirable in all respects, or whether it would not be better to limit the competition to eight or nine well-known men of ability." To this I replied that, in my opinion, an open competition was the worst course possible; that a limited competition was only less bad; and that, in my humble opinion, the best course was not to choose from plans, but to choose a man "as carefully as they could, whether by vote or otherwise, in a committee (as they would, indeed, choose a solicitor or a physician), and having chosen him, to put themselves in confidential communication with him from the outset, and thus save time, money, and temper"; while disappointed competitors would be spared "that feeling of soreness which arises against a system which requires many men (earning their living by hand and head work) to give a client many designs while he will actually only pay for one."

The town council took my advice, and decided not to ask for plans, but to consider six names which were presented to them, and you will feel with me, I think, they will have no reason to regret the course I advocated when I tell you that their choice fell on Mr. Waterhouse, who will, I doubt not, produce a design in the credit of which we, his brethren, may feel some reflected share, though, of course, the full measure will be his own. I have reason to believe that this is not a solitary instance of "a man" being chosen by competition in place of the present system of "a plan in competition." I trust the habit may grow, and I feel sure that in the end architects as a body would rejoice in the change.

(To be continued.)

#### A CITY SWAMP.

We have lively recollections of scenes and events in connection with the notorious passage known as Bull-lane, which for upwards of thirty years has been almost what may be designated "a God-abandoned place." This lane has been in our time a

standing disgrace to the city, and we think that if the municipal authorities, were in earnest in social and sanitary reform, Bull-lane would long since have been a moral and law-abiding place. When Pill-lane, many years since, had a large portion of its length subjected to improvement, in consequence of additions to our Law Courts, then was the opportune time to have taken Bull-lane and contiguous courts in hands. Pill-lane at its narrower end, near Church-street, had its old houses demolished, which lined either side. The narrow defile that entered into Church-street was once a busy spot, and contained many thriving small traders and manufacturers. With their displacement the business of the locality suffered, and Pill-lane became a less business and prosperous neighbourhood. It was for long years the centre of the ironmongery trade—represented, among others, by the Mooneys, Saunders and Gatchell, Pikes, and others; the latter firm still holds its ground. Between 1840 and 1850 many firms flourished behind the Law Courts, but even at that time Bull-lane was a sink of dirt, sin, and violence. The houses of the court in these years were old, and a quarter of a century lapse has certainly not rendered them more habitable, though they have been patched over and over again by their plastic and very accommodating landlords. So long as these landlords can get their rents they care not how many brothels flourish, or how many souls and bodies perish by sin, disease, and death.

But enough by way of introduction to the notice of motion and statement of Mr. Gray in the Corporation on Monday last:—

"That while disclaiming all responsibility for the present disgraceful state of Bull-lane, the Corporation of Dublin not possessing the police powers vested in English corporations, we, at the same time, earnestly join in the prayer of the memorial lately adopted by the City Grand Jury, calling the attention of his Excellency the Lord Lieutenant to the condition of Bull-lane as a centre of crime and vice, and praying his Excellency to cause the proper authorities to deal effectively with a state of things which amounts to a public scandal and disgrace."

The state of Bull-lane (said Mr. Gray) was a subject that had been much discussed. The City Grand Jury adopted a resolution in the shape of a memorial calling on the city authorities and the Government to deal with the place. The Grand Jury were in error in thinking that the civic authorities had any power in the matter. The only powers they had were as the sanitary authorities, and as a matter of fact the condition of Bull-lane was not such as to justify them as the sanitary authority in interfering. They could not, without straining the law, interfere to suppress these houses. He had called on Captain Talbot some days ago, and asked for some information about the lane, and as to the amount of crime that existed there. In reply Captain Talbot sent him a letter and certain interesting statistics. The houses in the lane are old, but not so bad from a sanitary point of view as not to be habitable. The walls are well whitewashed, the lobbies and rooms clean, everything considered, and ventilation not prevented by furniture, as it may almost be said there is none in any of the rooms. The residents, &c., live chiefly on porter and ready-cooked meat. The robberies in the district were all of money from one another, or from herds or others from the country up for the Thursday markets. The state of things disclosed showed the crying necessity of some action being taken to abate what had become a public scandal. This district was a source of danger as well as of vice—a centre of physical danger to any one who went near it. He had the assurance of Captain Talbot that the more the matter was ventilated, the more popular opinion was brought to bear on it, the stronger he would be in dealing with it. Now, not having the police authority possessed by other countries, they could only do their best with the means at their disposal. Nothing was more clearly established than that the herding together of bad characters made such people more dangerous to themselves and others. Legal

difficulties of course existed, but much could be done.

Alderman Dennehy seconded the proposition, and said he thought they ought to strain the powers they possessed under the Public Health Act, and as Wide Street Commissioners, to the utmost of their powers, to remove the place altogether.

The motion was then put and adopted.

In another report Mr. Gray is stated to have said—"The reason that the Artisans' Dwellings Committee did not take it in hands was that Bull-lane was not in a very interesting state, and that it was perfectly garrisoned by public houses which it would be very expensive to purchase."

As for Bull-lane being in a sanitary condition and, the houses fit for habitation, we deny it. The existence of so many public-houses in the locality is certainly conducive to temptation, sin, and crime, particularly when the trades, occupation, and general character of the inhabitants of Bull-lane are considered. Porter is stated to be the principal sustenance of the inhabitants—porter and ready-cooked meat. Robbery and murder, thieves and brothels are prosperous. Is it because of porter, whiskey, and cooked meat? or is it partly, if not mainly, because our Corporation have not sufficient moral energy and public spirit to wipe out the city's disgrace, by pulling down the abominable rookeries in Bull-lane, and paving the way for putting the provisions of the Artisans' Dwellings Act in force?

#### THE DUBLIN PORT AND DOCKS BOARD.

##### PROJECTED WORKS.

THE Board have given notice and promoted a bill to be brought before next session of Parliament to obtain certain powers over land in the estuary of the Liffey by compulsory purchase. As stated, they also seek the following:—Amendment of Act of 1869 with respect to Ballast; Erection of Warehouses; Removal of Goods; Recovery of Warehousing Rates; Extension of Dock Tonnage Rates; Protection of Board's Property; Audit of Accounts; Additional Borrowing Powers; General Amendment of Acts.

The first part of their scheme is thus detailed:—To enable the Board to purchase by agreement or compulsorily with a view to dredging and deepening the same, and exercising the other powers vested in the Board for the improvement of the Port of Dublin, certain lands and other property partly in the parish of St. Thomas, in the City of Dublin, partly in the parish of Clontarf, partly in the parish of Killester, both in the County of Dublin, and partly extra-parochial, now forming part of the estuary of the river Liffey, and for the most part covered with water, bounded on the north by the Township of Clontarf, on the west partly by the Great Northern Railway (Ireland), partly by the East Wall, and partly by the property of the Board, on the south partly by the property of the Board and partly by the channel of the river, and on the east by a portion of the estuary of the said river belonging to the Board, and the Bill will declare the said portion of the estuary herein described to be free from all rights and claims (if any) on the part of the allottees of the North Lots or the representatives or sequels in title of such allottees.

There are certain important interests in connection with the above, which we hope will be submitted to a fair discussion on their merits. These interests bear upon private rights and public rights, the reclamation of slob lands and foreshores, sewerage schemes, future main drainage, metropolitan wants and suburban improvements. The Corporation and the northern townships will no doubt give the scope of the new bill the consideration it deserves, for it involves a good deal more than it expresses.

Apart from the above bill, and in connection with the administration of the Board,

we would be disposed to say a few words in consequence of some statements made by members of the Corporation, but until we are further informed it would not be judicious on our part to venture an opinion. The small representation of the Corporation on the Port and Docks Board seems to be the sore point. As to the misapplication of funds, the members of our Corporation are not the parties who should say much on that head, or could say it with good grace, knowing how grievously they themselves have sinned for years against the citizens and ratepayers, by squandering the public moneys on all sorts of schemes.

## CORRESPONDENCE.

### SCROLL OR NEWEL, AND TWIST.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In reference to above subject, I quite agree that the terms, "wreath" and "twist" are perfectly correct in hand-railing. A continued rail is one where a staircase is formed having a well or cylinder of any size; this entails a twist in the rail at the half pace (where there is no newel), and a quadrant on landing, which gives an uninterrupted course to the hand throughout, or "continuous"—hence the term. In all mansions, good sized houses, &c., the proper starting point for the rail should be the first (or curtail) step, finished with a scroll, which has a more artistic and finished appearance than the newel, especially when the staircase has a centre flight, which would then require two scrolls. The newel is used (and properly, too) in almost all Gothic edifices, being more in character with the other details. In this case there is no twist, the newel forming the termination of rail at first step, on half pace, and on landing. The newel should always be used in narrow spaces within 7 ft. wide. A scroll can be made as strong as a newel; the former is easier kept clean than the latter, when panelled and carved.—Yours, &c.,

L.

### ARTISANS' REPORTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Can you kindly inform whether the deputation of Irish artisans lately sent to the Paris Exhibition have yet sent in their reports, and when we may expect them to be printed? A number of fellow-artisans and myself have regarded this movement with considerable interest, and, believing it will be productive of some good, are most anxious to see the reports. We hope they will be published in cheap form, and circulated largely through the country.—AN ARTISAN.

[You can probably get some information as to the reports from Mr. J. A. Fahie, Nassau-street.—ED. I. B.]

### ARTISANS' DWELLINGS NOTES.

DUBLIN.

At the meeting of the Municipal Council on Monday Mr. E. D. Gray moved the adoption of the annual report of the Artisans' and Labourers' Dwellings Committee. The committee, he said, had spent £200, and had £800 in bank. They were about to proceed with the Coombe area; an arbitrator had been appointed, and would sit on the 10th prox. As to the Boyne-street area, they did not intend to proceed with it at present, and for this reason—the houses were now all untenanted, and many of them pulled down, and therefore they could not be unhealthy. If, however, they could come to an agreement with the proprietor for the purchase at a reasonable price, instead of purchasing compulsorily, they would proceed with it. The report was adopted.

GREENOCK.

A most gratifying report as to the working of the Artisans' Dwellings Act in Greenock was submitted to the Police Board of that

town during the week by the convener of the Improvement Trust. The area that had been scheduled to be dealt with at the commencement of the year was 4½ acres of a densely-populated district of dilapidated houses. About one-third of that area had been dealt with. The total claims lodged against the Local Authority by the proprietors of the condemned properties amounted to over £90,000. These had all been settled for £62,397. In order to carry out the operations of the Trust a tax of 3d. per £1 was imposed, and application is to be made to the Public Works Loan Commissioners for a loan of £115,000.

## OBITUARY.

THOMAS BRIDGFORD, R.H.A.

It is with deep regret that we record the death of the gentleman whose name stands at the head of this notice. Identified for many years (says a contemporary) with pictorial art in this city, and one of the oldest members of the Royal Hibernian Academy, Mr. Bridgford was extensively known and highly respected. On last Thursday, when busily occupied, as usual, in giving his (now sorrowing) pupils those instructions which he was eminently qualified to impart, he appeared to be in the full enjoyment of his accustomed health, but at half-past ten that night he was seized with one of those sudden attacks by which, of late, other men of eminence in their walks in life have been removed from our midst, and expired at the age of 66 years. The sorrow which we experience in adding so distinguished a name to the list of those who have passed away from amongst us is, we are sure, widely felt in our city, where the deceased artist was so long a resident and where he will be greatly missed.

## NOTES OF WORKS.

**WATERFORD CATHEDRAL.**—It is proposed to re-erect the spire of Christ Church Cathedral, Waterford. The cost is estimated at about £2,000, of which £800 is already in hand. At a meeting on the 16th ult., held in the Protestant Hall, a sum of £360 was collected, including £100 from the Marquis of Waterford, and £100 from the Bishop of Cashel.

The parish church, Killenkere, in the diocese of Kilmore, has been re-opened after a thorough repair and "restoration." We learn that the good work has been accomplished mainly by the liberality and exertions of the incumbent, the Rev. S. A. Robinson, and members of his family.

The board of managers of the Royal Academical Institution are building three large class-rooms in the rear of their main school building, College-square, Belfast. They will be plain, with little ornament beyond a few moulded and coloured bricks to the door and window jambs, but will be lofty and exceptionally well lighted and ventilated. A laboratory for the pupils of Dr. Burden's chemical class at the Institution is also being built, fitted with every modern scientific appliance. The cost of these buildings will be about £1,600. Mr. McCammond is the contractor, and they are being built from the designs and under the superintendence of Messrs. Thomas Jackson and Son, architects, 5 Corn-market, Belfast.

Mr. Alexander M'Alister, Belfast, is architect for the following works in contemplation:—New Roman Catholic church and presbytery at Cloughmills, County Antrim, for Rev. E. Watterson, P.P.; new Roman Catholic church and presbytery at Dundrum, County Down, for Rev. F. M'Keating, P.P.; presbytery and school teacher's residence at Clough, County Down, for Rev. F. M'Keating, P.P.

The following works are in progress under the superintendence of same architect:—Rebuilding Trench House, County Antrim, for Arthur Hamill, Esq.; Messrs. J. and R.

Thompson, contractors. Terrace of six dwelling-houses in Clifton Park-avenue, Belfast, for trustees of St. Malachy's College; Mr. Charles Boyd, contractor. Male and female schools, each 70 ft. by 40 ft., in Raglan-street and Panton-street, Belfast, for Rev. A. Macauley, adm.; Mr. Charles Boyd, contractor. Block of semi-detached villas in Windsor Park-avenue, Belfast, for Samuel Gibson, Esq.; Matthew Mansell, contractor. Monument to the late A. J. McKenna, Esq., editor of *Ulster Observer*; Mr. John Loughlin, contractor.

The interior and exterior of Screeb House, Connemara, are to be decorated for Thomas Broadwood, Esq., London; and a fishing-lodge is to be built in a picturesque locality adjoining a lake thereat. Messrs. Anthony Keogh and Sons are the contractors.

A new cemetery is projected for the Protestants of the city of Limerick. A committee has been appointed "to acquire information as to the extent, position, and value of a suitable piece of ground to convert into a Protestant cemetery, and that they report to a public meeting of the Protestants of Limerick."

## TO CORRESPONDENTS.

C. E.—We have already dealt with the subject at considerable length.

Re STAIRCASES.—We will give some correspondence on this subject our attention in our next, perhaps.

A. CH.—We are afraid the sketch would not prove generally acceptable to our readers.

RECEIVED.—Q. C.—R. H.—J. C.—A Craftsman—M. D.—F. G.—A Builder—W. W. (London)—T. C.—A Citizen—S. W.

—B. A., &c.

## HOME AND FOREIGN NOTES.

**BARRY SULLIVAN.**—The closing day of November has been signalled by a national banquet in compliment to the great tragedian by his many friends and admirers in his native land. As we go to press this time before the date of our publication, we hope to hear that the banquet at the Exhibition Palace was an entire success.

**THE CITY STREETS.**—The condition of the streets of Dublin, even according to the report of the Deputy Surveyor, is bad. The road metalling at present used is nearly worthless. A steam roller is wanted, and better paving materials, and the Deputy Surveyor is lustily crying out for a horse and trap, as he is nearly broken down in using "Shank's mare!"

**ROYAL COLLEGE OF SCIENCE.**—Professor Galloway delivered, on the 24th ult., a lecture in the above institution on the special necessity at present for greater attention to thorough scientific and technical education in the country. He admits that the United Kingdom is behind continental nations, but does not agree with the reasons usually assigned for the fact. We have discussed some bearings of the subject of technical education elsewhere in our columns.

**IS A SCHOOL OF ANATOMY A NUISANCE?**—Respecting the establishment of a School of Anatomy in Angier-street, some of our citizens have been alarming themselves. Mr. Gray, in the Corporation, alluded to the building by saying that it would be "in the vicinity of two churches and a school, forwarded a remonstrance to the Government, but the reply was to the effect that the requisite conditions had been complied with. He was anxious that the public should know that it was through no fault of the Corporation that this, which he regarded as a nuisance, had not been prevented."

**THE IRISH INTERMEDIATE EDUCATION ACT.**—The memorials of the Catholic Head Masters and the Protestant Head Masters, signed respectively by William Delany, S.J., Rector of St. Stanislaus' College, Tulabeg, hon. sec., and Rev. Mr. Rice, St. Columba's, Rathfriland, have been published, and both give lengthy details as to the scheme of the examinations intended to be carried out under the provisions of the act. Both schemes are susceptible, in our opinion, of much improvement, and we think they are too exclusive in their scope. Pupils or clever scholars in the lower or primary schools should have some inducements held out to them under both schemes. We are glad to see that teaching and study of the Irish language is recognised and provided for under both schemes. Hereafter we may allude further to the subject of intermediate education in Ireland, and its general scope under the act.

It is reported that Fenton Colliery, North Staffordshire, has been stopped until more prosperous times. Between 200 and 300 men have been paid off.

**THE SLATE TRADE.**—Orders were issued on Thursday last for closing two of the largest slate manufactories at Bangor. Most of the quarries in the district are reducing the number of workmen and lowering the wages.

**SHEFFIELD.**—A meeting was held at Sheffield on Monday, at which it was stated by the Mayor that the distress in the town was more widespread than ever, and a large number were actually perishing for want of food. It was resolved to raise a relief fund, and to commence operations at once by district relief committees.

**HAMBLET'S PAVINGS.**—At the late Presentment Sessions for the Town and Liberty of Coleraine, it was resolved to use Hamblet's Machine-Made Blue Terra-Metallic Pavings, on the east side of Meetinghouse-place. The county surveyor testified that they were a superior class of brick, and very little more costly than others at present in the market. (See advertisement on last page of this issue.)

## ACCIDENTS.

The body of a man apparently about 50 years of age, was taken out of the Liffey on Monday morning. Deceased had on a blue pilot cloth top coat and tweed trousers.

A carpenter named Larkin, whilst riding home from Ennis to Lisdoonvarna on a 56-inch bicycle, with some new tools which he had purchased, was upset near Lisdoonvarna, and, falling upon a chisel, was severely wounded. His dead body was found on the road.

On Saturday evening a man named John Kane, an attorney's clerk out of employment, was literally cut to pieces by a passing train at the Lansdowne-road station of the Kingstown Railway. The coroner's jury expressed their opinion that the line is not properly protected, the fences too low, and at that point not sufficiently lighted.

On Saturday morning the body of a man named Henry Murphy, who had been hall porter in the office of National Education, was found in the front area of the building. It appeared that he was under the influence of drink on the previous night, and in that state made his way to the front window, which he raised some 15 in. and fell from thence, a depth of about 13 ft.

## NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress in town or country. No charge is made for insertion.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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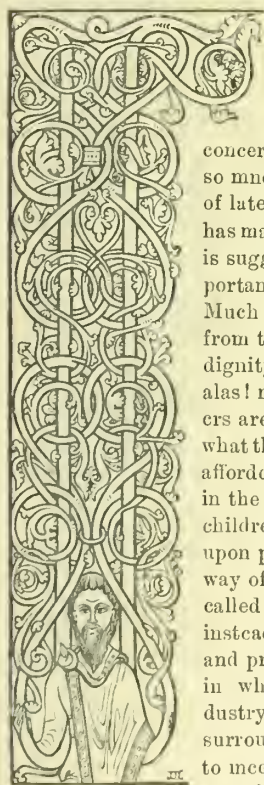
Contents.

|   | Page     |
|---|----------|
| SKILLED LABOUR AND "GENTEEL" PURSUITS .. ..   | 355      |
| William Kilbourn, Workman, Artist, and Manufacturer—<br>A Neglected Biography .. ..   | 356      |
| The Paris Exhibition Committee—Irish Artisans' Reports ..   | 357      |
| The Dublin Main Drainage and the Townships .. ..  | 357      |
| English Architects in Ireland !!! .. ..   | 357      |
| New Parsonage, Malone, Belfast .. ..  | 358      |
| The Chairs of some Celebrities .. ..  | 358      |
| Christ Church, Belfast .. ..  | 358      |
| The Ventilation of Coal Mines .. ..   | 359      |
| President's Address—Royal Institute of British Architects ..  | 359      |
| Health Questions .. ..  | 360      |
| The Heating and Ventilating Apparatus of the Glasgow<br>University .. ..  | 363      |
| The Future of the Electric Light—A Gas Manager's<br>Opinion .. ..   | 363      |
| Sanitary Precautions in the North .. ..   | 364      |
| Drumcondra Township .. ..   | 364      |
| An Artist <i>versus</i> an Art Critic .. ..   | 364      |
| The Society of Arts .. ..   | 365      |
| Municipal Legislation and Expenditure .. ..   | 365      |
| The Bann Navigation—Proposed Works .. ..  | 366      |
| Adversaria Hibernica—Literary and Technical .. ..   | 366      |
| Law—Action against an Architect; Encroachment on a<br>Public Road; A Builder's Action; Action for Adver-<br>tisement Contract .. .. | 367      |
| Books Received—Remarks on the Irish Dialect of the<br>English Language; The Pantiles Papers .. ..                                   | 367, 368 |
| The Royal Irish Academy .. ..   | 368      |
| Notes of Works .. ..  | 368      |
| Lighting Topics .. ..   | 368      |
| Stucco-work at the new Stock Exchange .. ..   | 369      |
| Amateur Art .. ..   | 369      |
| Labour and Wages .. ..  | 369      |
| To Correspondents .. ..   | 369      |
| Home and Foreign Notes .. ..  | 369      |

THE IRISH BUILDER.

VOL. XX.—No. 456.

SKILLED LABOUR AND "GENTEEL" PURSUITS.



Our last number we touched upon some of the bearings of Technical Education, concerning which subject so much has been written of late; but the question has many side-issues, and is suggestive of many important considerations. Much has been written from time to time on the dignity of labour; but, alas! many of the preachers are not practisers of what they write, and when afforded an opportunity in the case of their own children, often decide upon putting them in the way of following what is called a genteel pursuit, instead of a permanent and profitable one, or one in which persistent industry, apart from its surroundings, is certain to meet with its reward.

The choice of a profession for their sons has from time out of mind been a difficulty with many parents.

Before the era of steam and the wonderful growth of manufactures, and the consequent division of labour into various branches, the middle classes were prone—as they are to a great extent at present—to educate their sons for a professional life. The Church,

the Bar, the Medical profession, and the Army were the principal fields looked forward to, and often the young man entered on one or other of these pursuits, and not seldom with no proper qualification or liking for the same. The parent might be a farmer or a well-to-do trader or small employer in connection with one or other of the building branches, but he seldom was found encouraging his own sons to follow his own trade, and as seldom, indeed, did his sons of their own accord, at least in this country, follow their father's trade.

Unfortunately in Ireland this system has long obtained, and to a great extent still continues; and from time to time within the present century several fine manufacturing firms have collapsed at their founder's death, or otherwise passed into the hands of strangers, to be ruined or injured by another system of management. There have been up till lately, and there are a few instances at present in Dublin which can be pointed to of grandsons following the trade of their grandsires, and with reputation and increasing wealth. As a class, however, the traders and manufacturers in Dublin—small or large, comfortable or struggling—aim at making their sons "gentlemen" and their daughters accomplished "ladies." The smallest publican or provision dealer, when he feels that he is at last established and has a growing business, apes the manners and habits of those above him, and Master Pat and Miss Biddy are destined for genteel pursuits. If in Catholic households, one of the family at least goes to the Church, and not seldom the young lady to the convent. We have no objection to urge against young people taking to a religious life, if they so desire it; nor do we blame Catholic parents in this particular, for struggling Protestant households contrive to draft one or more of their sons into the Church, and are as anxious to do so as their neighbours. We think, however, it is a most mistaken notion for parents to be so anxious in these years for making doctors and barristers of their sons, or putting them into other overcrowded professions, while so many industrial callings are open that may be entered with hope and pursued with as much dignity and more profit than the professions alluded to.

Mechanical employments have long been unwisely and madly looked down upon by people who have risen a little in the world, and in several instances by the very persons who owe their uprise to the pursuit of the trade which they affect to sneer at. Again, our thousands of traders and shopkeepers are making the major part of their profits out of customers engaged in mechanical labour; and yet your petty shopkeeper in his own estimation thinks his business is superior to any mechanical one, although it needs no skilled labour in its conduct. Where the father and mother affect to look down on a skilled trade as something low, we need not wonder at their children doing the same. The most charitable way we can designate such conduct is to call it a manifestation of ignorance coupled with vulgarity. If it were but simple ignorance on their part, we could excuse them.

In this and other cities it will be too often found that those who are unable to give their children a liberal education, or start them with a profession, will prefer making clerks of them than apprenticing them to a trade. A Government or Civil Service appointment of any kind is desiderated before a mechani-

cal one. The father and mother's pets must not soil their fingers in handling workmen's tools, or wearing linen or leather aprons. The genteel youth himself desires and must have by hook or by crook a genteel employment. If he cannot become a bank clerk he will become a merchant's or shopkeeper's clerk, or if he has a leaning for the law, some attorney's office will find a vacant stool for the juvenile. A tide waiter, a revenue officer, a railway clerk, or even a ticket-taker or collector at any big institution is preferred to soiling the fingers at a "common trade." Better to work from nine till four for twelve or fifteen shillings a week, thinks the genteel youth, than herd with common mechanics with bigger wages and longer hours. Would that we could make fathers and mothers and their foolish sons conscious of their folly, and make the former realise the misery that they are preparing in the future for their children. The life of a city clerk is one full of vicissitudes at best. While a few thousand who take to this life may obtain permanent situations, and in some instances pensions in their old age, particularly bank clerks and others in public institutions; still the great majority of our clerks experience many hardships through unsettled employments. Many more obtain little higher salary in their middle age than when they were youths, and their prospects as married men are not at all cheerful, but the reverse. Far better would it have been for thousands upon thousands of clerks to have taken to some mechanical employment in the pursuit of which they could obtain good wages, and by sobriety and industry live comfortably, as well as put up something for the "rainy day."

We know that low habits and drunkenness have been associated with mechanical employments, but low habits and drunkenness may exist and have existed in connection with many other pursuits. A drunken mechanic is, of course, not a rare sight in any of our cities and towns, and though a gentleman should not be a drunkard, many "gentlemen," so called, genteel in appearance and dressed in broad-cloth, are discoverable. Gentlemanly conduct and genteel appearance are not always associated together, and the artisan in his working dress may be as much the gentleman as the better-dressed and biggest-salaried clerk in the city. There is no more moral dignity in the labour belonging to a professional calling than that belonging to the skilled artisan. A great artist, to be sure, may possess extraordinary genius and talents, but so far as his labour is concerned its dignity is comprised in its proper performance for his own benefit, and that of the State. Worldly honours may, of course, more often come to professional men than to others, yet, even these honours are not beyond the reach of men engaged in mechanical employments. Once working artisans are constantly becoming great manufacturers and large employers of labour, and their special talents and services are often availed of by the State, and in the pursuit of a trade there is every chance and prospect, with proper conditions, of rising in the world.

The great bulk of the emigrants who left Ireland during the last thirty years were of the farming and agricultural classes. Had there been manufacturing establishments in our several large towns and cities, a large portion of those that left their country would have remained at home, and in a short while the surplus labour would have been absorbed. Indeed it might be safely written had our

country been more of a manufacturing one, no such distress as occurred between the years 1845-50 would have taken place. Distress there might have been, but it would be limited. Apart from America and Australia, the mines and factories of England and Scotland absorbed a considerable amount of Irish labour, and continue to do so till the present time. We want more industrial branches of trade and more skilled labour. The establishment of the former would lead to the latter, and then we would soon export more than we import. Want of enterprise there certainly has been in this country on the part of capitalists, and we are not in a position to blame, as our people too often have done, English and Scotch capitalists for coming over and introducing what was called foreign labour. The kind of labour that was needed by foreign capitalists settling in Ireland was not to be had, save to a limited extent, and it was impossible for them to carry out their enterprise successfully without trained workmen in many branches. It was an inducement, to be sure, for some English capitalists to come here on account of cheapness of labour on this side, but this cheap labour was generally of the roughest kind. To the false pride of many of our people, and particularly those who affect to be of our middle classes, much blame may be attributed from the manner in which they looked down upon industrial and mechanical employments. It is not too late for these foolish people now to study their own and their country's interests, and to do all that lies in their power for the elevation and encouragement of native trade. Let them educate their children well, but with a view to their future callings and put at least a few of their sons to trades. A trade once learned is no incumbrance—efficiently learned and understood it is a passport to employment, and a guarantee against prolonged hardship. Whatever may be the boy's or young man's expectations, once put to a trade let him be kept to it till he has acquired it. If he can be assisted to start in the world by his parents as an employer when he has acquired his trade, so much the better, and he can start with this great advantage over many, that he has a practical knowledge of his business. Why do so many persons fail in business? It is because they have no personal knowledge of the manufacture or trade they undertake to carry on. To be sure several firms and companies have been established by capitalists who knew little or nothing of the business they established, but employed managers and foremen who did. Many succeeded, many more have failed; but where the chief and his partners thoroughly understood their work, failures have been rare.

Genteel pursuits are great mistakes in this utilitarian age of fierce competition and skilled industries. Brow sweat and brain sweat must now work in unison. Men must work and think, and think soundly as well as work; and that they may do so with effect, they need to have the good basis of elementary and technical education. Fine feathers do not always make fine birds, as far as their singing qualities are concerned; neither do fine clothes and genteel employments make skilled gentlemen. Notwithstanding all that may be written, the professions for some years longer will be overcrowded; barristers will attend the courts for month after month, desponding and

briefless; doctors will wander about in hundreds looking for a practice, and contenting themselves perforce with odd temporary engagements as deputies. Curates will hunger the same as thousands of our clerks, but the opens will be few and far between. Skilled labour, instead of being undervalued, should be encouraged in all directions, and the efficient craftsmen who is sober and industrious not only deserves respect, but can command it from all members of society. Educated and gentlemanly workmen are growing in numbers; and though, as a class, artisans are not without their faults, their calling is an honourable one, and will be more appreciated by the many as time advances.

### WILLIAM KILBURN,

WORKMAN, ARTIST, AND MANUFACTURER.

#### A NEGLECTED BIOGRAPHY.

THE life and career of the subject of our brief notice affords a lesson to many of our young countrymen, as it shows what may be accomplished by steady perseverance and industry coupled with the requisite technical knowledge which it should be the desire of every young workman to obtain for the successful prosecution of his art or craft. Our sketch may be usefully read in connection with our opening article, for the life of William Kilburn proves that the workman may be an artist as well as a craftsman, and eventually become a wealthy and honoured member of society, while still clinging to his trade and feeling as proud of its practice and management as if it were one of the more highly-extolled professions.

William Kilburn was born in Capel-street, in this city, on the 1st of November, 1745, and was the only son of Samuel Kilburn, an architect and builder of some note in his day. The son very early exhibited a taste for drawing; and as his health was rather delicate, and his parents wished him to reside in the country, they resolved on placing him as an apprentice with Mr. Jonathan Sisson, an Englishman who had established a calico-printing factory at Leixlip. Here young Kilburn quickly acquired a knowledge of the several branches of an art which subsequently became an important one in Ireland, and for many years reflected credit on the country. Drawing and engraving became the special studies of young Kilburn, and his unceasing industry and application to his art were most remarkable. He rose at four in the mornings, and occupied his leisure hours in designing patterns for the paper-stainers of the city, and with his master's consent these were sold, the produce affording the young student pocket-money. One of the uses to which he applied this money was the purchase of a pony, on which he rode to Dublin on Saturdays, passing the Sunday in the city with his parents. He always evidenced great readiness with his pencil; and if a new pattern caught his eye, out came his pocket-book, and the result was laid before his master on his return. When Kilburn's apprenticeship expired he found himself alone with his mother and sister. His father, who had speculated heavily in building, became embarrassed in circumstances, had in the meantime died.

Young Kilburn resolved on proceeding to London, and in a short while obtained a ready sale for his designs amongst the calico-printers there. We find him next drawing

and engraving flowers from nature for the print-shops, and the latter employment led to his acquaintance with Mr. William Curtis, the botanist, who considered himself fortunate in meeting with an artist of such uncommon talents. Curtis agreed with Kilburn to execute the plates for his work "Flora Londinensis." After he had entered into this engagement he returned to Dublin and brought over to London his mother and sister. Taking a small house and garden, with greenhouse, in Bermondsey, on the Surrey side of the Thames, he settled down to work, occupying himself from sunrise till sunset in drawing and engraving plates for the work already named, a work which at the period was considered to have reflected much credit on English science. The work for Curtis having been finished, Kilburn accepted a proposal from a Mr. Newton to undertake the management of a calico-printing factory at Wallington, and in this concern he was to have a share of the profits without advancing capital. The business proved so successful under Kilburn's management that at the end of seven years he became a purchaser of the concern and the sole proprietor. From this date he rose rapidly in wealth and reputation, and was soon acknowledged to be the most eminent calico-printer in England. He raised the art to a perfection that it had never previously attained in the kingdom, and which was not surpassed for long years after. The highest honours were given by him to his workmen, to whom came from the Continent, and also gave annual premiums for the best designs. Kilburn was, indeed, an educator, and a fosterer of technical education for the benefit of workmen and their art. His fabrics were highly valued—pieces of his muslin chintz sold at 10s. 6d. per yard. He had the honour of being one of these pieces, the seaweed designed by himself, to Queen Victoria. His patterns were soon pirated, and a bill had been done in Manchester for a bill, which was brought forward by his neighbour and count, the Right Hon. Edmund Burke. This was "To secure the calico-printers of England the copyright in original designs."

Of the personal life of William Kilburn, we have not within our reach many details. He married the eldest daughter of Mr. Thomas Brown, an East India director, an amiable lady who survived, and by whom he had several children. In all the duties of son and brother, husband and father, Kilburn's conduct was exemplary; and his moral character throughout life was without reproach both as a man and a christian. Though delicate in his youth he enjoyed excellent health till a few months before his death. Feeling unwell he proceeded to Brighton, but not improving he returned to Wallington, where he died on the 23rd of December, 1818, in his 73rd year. He was deeply lamented by the poor inhabitants of his neighbourhood, who followed him bare-headed in large numbers to the grave. In personal appearance Mr. Kilburn was noticeable, being above 6 ft. in height, thin, yet well proportioned and perfectly straight even to the last. A writer, to whom we are indebted, writing nearly fifty years ago, said of Kilburn:—"The pencil in his long fingers appeared scarcely to touch the paper when drawing, so much had he acquired of grace and freedom. The flowers that he engraved

about the time he became acquainted with Mr. Curtis are now sought for by connoisseurs, being so true to nature; and I have before me his engraving of a dead canary on a marble slab, which even in this advanced stage of the arts would rival many of the *bijoux* that adorn our modern annuals. Being most domestic in his habits and constantly occupied, he was never able to visit Ireland after he settled at Wallington, but every Irishman that was introduced found a hospitable reception at his table. He prided his country, of which he may be justly said to have been an ornament."

We are almost tempted to say a little concerning the history, the rise, and decline of calico-printing in Ireland, but the subject might lead us too far afield. During the era of the Irish Parliament, and for some years into the present century, calico-printing was carried on with success and had several representatives. Alas! how many are there now? We find, on reference to the old Dublin directories of 1786 and 1796, the name of "Jacob Sisson, linen-printer, Lucan," appears, most likely of the same family and the successor of Jonathan Sisson, the master of William Kilburn. The name of "Jonathan Sisson, merchant, 1 Basin-lane," occurs in the directory of the last-named year. On a future occasion we may give some historical particulars of the history of that art in Ireland with which the name of William Kilburn is so inseparably connected, and for perfection of which he laboured so nobly and successfully through his long and industrious life.

#### THE PARIS EXHIBITION COMMITTEE.

##### IRISH ARTISANS' REPORTS.

A MEETING of this committee was held at the Mansion House on the 4th inst. to wind up affairs, and present a report of the work accomplished. The Lord Mayor presided. Mr. Henry Parkinson read the report of the Dublin Committee, which went on to state that the committee was formed for the purpose of promoting the objects of the Paris Exhibition in this country, and to assist Irish exhibitors. The committee were enabled not only to furnish from time to time to intending exhibitors, but in some instances to procure space for a few who had sent in their applications long after the lists of exhibitors had been closed by the Royal British Commission. It could not but be regretted that Ireland did not put in a better appearance at the Paris Exhibition, and that her exhibitors were so limited in number. The committee regretted also to mention that some of the manufacturers who had sent in applications, for whom space had been obtained, declared their intention not to exhibit. The committee, anticipating the steps subsequently taken by the British Commission to assist artisans to visit the exhibition, passed a resolution on 11th August, 1877, appointing a special committee for the purpose of obtaining subscriptions to defray the expenses of a limited number of intelligent working men, one from each manufacture or trade in Ireland, to be sent over to visit the exhibition and report on the various exhibits in the sections embracing the trades or manufactures represented by the deputation. The special committee continued its labours for some time with but little encouragement from the manufacturers and employers of labour in this city. Finally, the sum of £137 14s. was collected, and twenty-one artisans, representing sixteen trades and five manufactures, were selected to form a deputation to visit the Exhibition. The committee considered it a subject of congratulation that, notwithstanding the forebodings of many in the country, the under-

taking was most successful, the deputation having won golden opinions during their visit to Paris for their diligence and intelligence. The committee expressed their grateful acknowledgments to Mr. C. H. Meldon, M.P., for his able assistance in Parliament, which resulted in the placing of the Irish contingent on a similar footing, and obtaining the same privileges as British artisans. The committee also returned thanks to Mr. J. A. Fahie, C.E., for the able manner in which he conducted the deputation to Paris.

Mr. Fahie read extracts from the report prepared by him of the reception of the artisans in Paris, of the facilities accorded them, the places visited, &c. The report gave an account of the proceedings of the deputation. Alluding to the subject of the proposed Museum of Science and Art for Ireland, it expressed a hope that the examples exhibited should include those of a class calculated to stimulate and improve art taste and training amongst the artisan classes, art models, &c. The report referred also to the exemplary conduct of the men from the time they left Ireland till their return home.

The reports handed in by the artisans and presented to the Lord Mayor were directed to be forwarded to the Society of Arts in London, by whom they will be printed at the cost of the Royal Commissioners. If we would add a few words more, it is to say, all things considered, the work of the committee has been fairly successful, notwithstanding the want of encouragement it experienced on the part of several of our large employers and manufacturers, who should have been ready to assist such a movement. We hope the reports will soon be printed and distributed, as already one or more of the English towns which sent artisan reporters to Paris have had their reports issued. We believe that the reports of the Dublin artisans will, as a whole, be found creditable, and will compare favourably with those of the sister kingdom.

#### THE DUBLIN MAIN DRAINAGE AND THE TOWNSHIPS.

THE Dublin Main Drainage Scheme is again brought before the public by Mr. Richard Hassard, C.E., whose plans for the drainage of the Rathmines and Pembroke townships are now being carried out. Mr. Hassard writes:—

"The present excessive death-rate in Dublin, coupled with the strong expression of opinion as to the defective sanitary condition of the city, recently pronounced by the Chief Secretary for Ireland in replying to a deputation from the Sanitary Association, has once more brought into prominence the foul state of the river and the long-pending question of main drainage. I repeat what I have often stated, viz.—that an excellent scheme of main drainage for the city and adjacent remaining townships, by which the river would be effectually freed from pollution, may be carried out at a cost for works, &c., of £300,000, being about three-eighths of the amount of the lowest tender sent in for the now defunct corporate project." The works for the main drainage of the Rathmines and Pembroke townships are in active progress, and in less than two years from this date these townships will possess a system of main drainage which, for efficiency and substantial construction, will, I think, be found equal to any similar work of the kind hitherto undertaken. It will be remembered that these townships were included in the Dublin Main Drainage Act of 1871; but, owing to the collapse of the corporate project, and the improbability of its ever being resuscitated, the commissioners of the two townships determined, in the year 1876, to apply for powers to construct a joint independent work of main drainage for getting rid of the sewage of their respective districts, and did me the honour of placing the matter in my hands. That no doubt might exist with relation to a subject of such vital import to the localities undertaking it, I suggested that the commissioners should obtain the opinion of Sir John Hawkshaw as to whether my views were sound ones, and as to whether my estimate was reliable. On both these questions Sir John's opinion was conclusive, and the commissioners accordingly resolved to proceed with the application to Parliament. During the contest which ensued in both

Houses, the bill was opposed at every stage by the Corporation. My estimate was strongly objected to, and it was confidently asserted (judging, no doubt, from past experience) that the works would cost much more than the amount at which I had estimated them. Now, how has this prediction been borne out? The contract has been let within my estimate, and the works are being carried out in a very satisfactory and creditable manner; and I think from this that there is fair ground for the inference that my estimate of £300,000 for a work of main drainage for the purification of the Liffey may not be very wide of the mark. I have recently again gone into the details of my project, and I see no reason to differ from the views I have previously expressed. I am willing that the proposed mode of dealing with the question shall be subject to the opinion of Sir John Hawkshaw; and should he confirm my views, I have little doubt but that I can find a contractor to undertake the works at the amount at which I have estimated them."

One thing is clear—some system of main drainage will soon have to be attempted in Dublin, if only for the purification of the Liffey, though that in itself is but a portion of the much-needed work.

#### ENGLISH ARCHITECTS IN IRELAND!!!

IN the course of a lecture on the subject of "Some Buildings I have Designed," by Mr. E. W. Godwin, F.S.A., at the Manchester Architectural Association on the 26th ult., that gentleman is reported to have spoken as follows respecting his Irish practice:—

"His next important work, after the Congleton Town Hall, was Dromore Castle. Between this and the Northampton Town Hall there was a considerable difference. Broadly speaking, both were founded on the Gothic of the latter part of the thirteenth or the beginning of the fourteenth century. His client in the case of Dromore was Lord Limerick; and he selected the site of the castle with his lordship one autumn morning—a site on the edge of a wood, overlooking a lake, which reflected the castle 100 feet below. It was a charming spot, commanding a distant view of the River Shannon, with old ruined castles and towers in the vicinity. He had not *carte blanche*; he was, in fact, limited as to expenditure. He could not convey the slightest notion of what that castle looked like. He had seen it by moonlight, seen it from the lake, from the road, and at a distance, at every angle, and the silhouette was about as charming a thing as ever he saw in his life, notwithstanding that it was his own work. Nevertheless there were in the construction certain blunders which the young architect should carefully guard against. One thing was that when he made an archway it should be a practical archway, capable of taking in what we in these days use, and not what we used in the days of Edward I. The archway exhibited in the drawing might have been perfectly right for that period, but was decidedly too low for the time of Queen Victoria. A four-in-hand, for instance, with a lot of passengers on the top, could not go in there; and gentlemen would drive four-in-hand sometimes. Of course his noble client was extremely delighted with the place. He was fond of Chaucer and of the mediæval authors, and it realised his taste exactly. He regretted that the internal decoration of the castle was not carried through. Somehow the walls always sent out a sort of fur, which he got a distinguished chemist to analyse. The chemist said "Oh, it will go away in time," but the time had not come yet. He would strike a note of warning to all young architects on that point. Of course he could not be expected to live at Dromore whilst the work was in progress; so he had a clerk of the works, and an English builder took the contract. The walls were from 3 ft. to 6 ft. thick, and they were to be built with an inside lining of brickwork, covered with pitch, and the cavity was to be perfectly ventilated, and so forth. Well, the work was done, but then it was found, whenever it was going to rain, that the walls showed it like a weather-glass. This bothered him exceedingly; he could not make it out; and he asked a London architect, who was in the neighbourhood at the time, as to the cause, and was told that it was due wholly to the climate. Ireland was sea-girt, and always damp, and they could not help it. There was, therefore, an end to decorations. His experience at Dromore and elsewhere led him to give this general advice to young architects—When offered a commission in Ireland, refuse it. He had known no end of architects come to grief by touching Ireland. Once, when staying at a noble mansion there, he observed that every room, without exception, was

festooned at the ceiling with paper hanging from walls. They could not keep damp out in Ireland. Go into a house having a stone staircase, and they could tell if it was going to rain in the afternoon, because the stones suddenly got darker in colour. Altogether, therefore, Ireland was a place to be avoided by the architect, he thought."

After reading the above we think we hear people asking Is this modest architect joking, or was he quizzing his professional brethren in Manchester? Mr. E. W. G. has of late been guilty of some strange vagaries, but the vagarist goes on in the present instance in improving upon them. Had the statements we quoted appeared in the pages of *Punch* or *Funny Folks* they would be in their right place, and as a contribution for Christmas entertainment they might have their uses in creating a laugh. We fear the architect of Dromore Castle has been guilty of some great sins of omission and commission in connection with his work, and forgot to provide for *potheen* being used in the tempering of the mortar. Irish masons and other workmen in the Green Island, had he inquired, could have told him that when *potheen* is not specified the mortar is apt to remain always in a green state. Had more spirit been put into the work, more "elbow grease" would have been applied.

"By that lake whose gloomy shore"  
Where stands the Castle of Dromore.

Irish stone, lime, and stone-masons have peculiar properties, and the idiosyncracies of the latter are as little understood as the former by most English architects. Sanitary architects provide for damp courses, but it would seem that the walls of Dromore Castle, from footings to wall-plates are a series of damp courses in the ordinary and not technical acceptation of the term. We pity the client, and we pity the builder; but as for the architect—well perhaps it was sufficient punishment for him to have to leave Ireland without the workmen's blessings and the bishop's benediction, of which he appears at present to stand so much in need.

Many foreign artists before, and English architects since, Gandon's time won fame in using Irish building materials wisely and well, but then they possessed undoubted talents, and acted in accordance with the Celtic proverb though they could not read it in the vernacular—"Cof mhích leach na h-oiríre."

#### NEW PARSONAGE, MALONE, BELFAST.

THIS parsonage has been recently completed for the select vestry of St. John's Church, Malone, advantage having been taken of the Glebes Loan Act in raising a portion of the necessary funds. It stands on about an acre of ground, a short distance from the church, and has drawing-room, dining-room, study, parlour, kitchen, &c., on the ground floor, and bed-rooms, w.c., and bath-room over these. The exterior is faced with best perforated brick, having bands of Staffordshire blue ones, as shown, and cut-stone lintels over opens. The work was carried out in a satisfactory manner by Mr. Thomas McArthur, according to the plans and under the superintendence of the architect, Mr. William Batt, jun., the outlay being between £1,200 and £1,300.

#### THE CHAIRS OF SOME CELEBRITIES.

In the *Builder* of the 7th inst. appears a very interesting article from the pen of the editor, Mr. George Godwin, entitled "Suggestive Furniture." The articles or objects that suggested the subject are the chairs once used by Anna Bullen, Mrs. Siddons, Lord Byron, and our own Lady Morgan. A full page is also devoted to the illustration of these historical chairs, the

engravings including the fire-screen that was once in possession of Dr. Johnson, the lexicographer. To any one conversant with the lives and works of the above-named distinguished celebrities, even if not of an antiquarian turn of mind, the historical details and gossip furnished by Mr. Godwin must be read with considerable interest. The chairs are certainly suggestive, and give rise to a host of memories and associations. It has been the writer's privilege once to see them in reality, and he recognises now their pictorial embodiment with pleasure. How these historic pieces of furniture came into the possession of their present worthy owner, who is sure to preserve them with care, is gracefully told. As the chair of Lady Morgan and its story will possess a charm for Irish readers, we quote what Mr. Godwin says:—

"Sydney Owenson, after writing 'The Wild Irish Girl,' came into fashion, and later on, when married to Sir Charles Morgan, became one of the queens of society. Her throne-like chair, velvet and gilt, precisely befits her memory; it always held the lady while she held her court. After the death of Lady Morgan, in 1859, it came into the possession of our much-esteemed friend, Mrs. S. C. Hall, to whom we are indebted for it. For how much pleasure and profit others are indebted to Mrs. Hall it would be impertinent to estimate here. A niece of Lady Morgan, Sydney too, carries on the traditions of her *spirituelle* aunt, and gathers around her, in a bandbox of a house in Sloane-street, more clever men and women than are often to be found in larger rooms."

Mrs. S. C. Hall, like Lady Morgan, belongs to Ireland, and, if we are not astray, is a native either of Dublin or Wexford. Too much could not be said in her favour, or that of her worthy husband, Mr. Samuel Carter Hall, who for many years has so admirably conducted the *Art Journal*. We have before us as we write several of the early tales and sketches of Mrs. Hall, published in Dublin journals, and which afforded us as boys infinite pleasure and delight. Her pen and voice have always been raised on the side of virtue, and self-exertion as against vice and sloth, and she has not seldom and with effect happily hit off the frailties of our people. Conjointly Mr. and Mrs. Hall have performed in their long lives a world of useful labour, and they are still engaged in advanced life actively labouring for the social elevation of the people. Long may they still continue, and when they pass from our midst, may their heirlooms find worthy possessors and illustrators like those who preceded them.

We have digressed, we fear; but the subject of our digression has been as suggestive as the furniture that led to our remarks. As to the other articles of historic furniture described by Mr. Godwin, we may briefly add that Anna Bullen's chair came out of Hever Castle forty years since. It is of oak; the legs are fluted Doric; the front of the seat is low, and ornamented with a coarse sort of marquetry. Mrs. Siddons's chair is made of bamboo, with cane bottom, very light, and the seat is as low as Anna Bullen's, 13 in. from the ground. The chair with other articles of furniture was left at the great actress's death to Miss Wilkinson, the sister of Tate Wilkinson, the actor. By Miss Wilkinson it was given to the late Dr. Thomas Stevenson, F.S.A., from whom Mr. Godwin received it. The story of Byron's chair is rather "an odd one" as the present possessor remarks; but he gives it as told by the former owner, the widow of one of our consuls. The chair is high-backed and old-fashioned, made of oak wood, and crimson velveted. The fire-screen

that belonged to Dr. Johnson came into Mr. Godwin's possession from Dr. Hugh Diamond, F.S.A. For fuller details we must refer the reader to the article itself, and also to the illustrations, which will, no doubt, suggest a train of thoughts, if the observer is not of the "earth earthly," and is interested in the lives and actions of great minds who walked this world in the past, and whose names are fated to live.

#### CHRIST CHURCH, BELFAST.

THIS church, which has for some time past been undergoing extensive alterations, was formally opened last Sunday. The church, which heretofore presented a very dilapidated appearance, has undergone a complete change. The flat segmental plastered ceiling (which was found on examination to be in a dangerous state) has been entirely removed, and replaced by a handsome wooden one, divided into sixteen panels by boldly-moulded and wrought beams, the stiles of framing, for contrast, being yellow pine, and the panels pitch pine, tongued and V-chamfered, the sheeting being laid on in various ways; four of the panels have ornamental centre pieces in same for ventilation. All the woodwork is stained and varnished, and the sinkings in bottom of beams are picked out in chocolate colour. A deeply-moulded stucco cornice having ornamental blocks in same is carried round the walls, and the space above same is coved in alabaster up to the wooden beams, with mouldings to form panels. The side windows have been entirely altered, and are now each independent of ground and gallery floors; new sashes of oak with glass and stained glass have been fixed in each. The front gallery has been panelled and moulded, and the choir is altered and well finished and made distinct from the rest. A massive oak rail resting on four wrought-iron standards has been placed in the chancel. The old pulpit and reading desk have been replaced by a new one of pitch pine, handsome and original design, resting on four columns and having stairs at each end opening all round, it has a light and airy appearance. The woodwork has been stained and varnished, and the walls are of a warm neutral tint. The chancel is lighted by four of Strode's improved gas burners, containing 48 burners. There are besides star pendants under galleries, and neat standards at choir. Two large polished and twisted brass standards, kindly presented by Mr. W. T. Coates, are fixed in the chancel. The heating is by means of hot air, introduced through a metal grating fixed in the wall under the gallery, and for so far has given satisfaction. The organ, which is a very fine and powerful instrument, was removed before commencement of operations, for fear of injury, and has been again refixed by Mr. J. C. Coombe, with additional stops and other improvements, and the pipes in front have all been regilt. Mr. Matthew Mansell, of Cooke-street, was the general contractor for the work; the gasfitting was done by Messrs. W. Coates and Son, of Fountain-street and Castle-street; the painting by Mr. John Pelan, Corporation-street; and the heating by Messrs. Riddell and Co., Donegall-place, who have all executed their portions of the work in a very creditable manner, according to the plans and specifications, and under the personal superintendence of the architect, Mr. Wm. Batt, jun., of Donegall-place. The cost was about £1,800.

On Monday morning as a man named John Carson, employed attending masons at a house in course of erection at Coleraine, was ascending a ladder, and when about 8 ft. from the ground, one of the rungs broke, and he fell, his breast coming in contact with a large stone, and was instantaneously killed.

## THE VENTILATION OF COAL MINES.\*

THE destruction of human life from colliery explosions in England and Wales has been greater within the last six months than has ever occurred before within the same length of time. Such a statement is enough to rouse public attention and inquiry into the question—Is there anything wrong in mining engineering that has caused such horrors to be on the increase? If such be the fact, it is a disgrace to the profession of civil engineering; and the Institutes of Architects and Engineers should be the first to call for inquiry and to collect information on the subject. In this age of progress and discovery it is their province, and their duty, to raise the important inquiry—Can such great disasters be prevented, and are they to be attributed to the ignorance and negligence of mine-owners and their workmen, or must they be taken as unavoidable matters of course, just as loss of life from shipwreck was looked upon a short time ago?

I believe these disasters can be prevented almost entirely, for I am sure they are to be attributed to the ignorance and neglect of all parties concerned in the working of the mines, and may be guarded against much more easily and effectually than those attendant on shipwreck.

I am convinced that an investigation of the manner of working and ventilating the coal mines in Staffordshire, Lancashire, and South Wales—where recently more than 700 men have been killed by explosions—would prove that the lives of the many thousands of workers in “fiery” mines are made to depend on an utterly ignorant mode of ventilation, with a totally insufficient machinery, and that a stronger case for interposition in their behalf, against ignorant or niggardly employers, exists, than Mr. Plimsoll made out for the merchant seamen.

As to the cause of colliery explosions everything is fully known to chemists. Mines of bituminous coal, from seams fresh opened, emit a carbo-hydrogen composed of 3 parts carbon and 1 part hydrogen, usually called “marsh-gas.” It requires for complete decomposition by fire explosion ten times its own volume of atmospheric air; but it is a curious fact that the most explosive mixture of the two is in the proportion of one volume of marsh-gas to seven and a half of air. After explosion there is left an atmosphere of carbonic acid gas, nitrogen, and steam, called the choke-damp, in which animal life or fire is immediately extinguished for want of oxygen. This marsh-gas is very light—its specific gravity being only 0.553, the atmospheric air being unity. It has therefore a tendency to rise in the workings and thereby to spread itself and be mixed with the air of the mine so as to endanger the production of explosive fire-damp. Against such an enemy of the miner, Sir Humphrey Davy’s safety-lamp was an inestimable discovery; and, indeed, if in a sound condition and properly handled, it would render the ventilation of the mines a matter of secondary importance. However, as the event proves, it by no means constitutes a perfect security, nor will colliery explosions cease until we can ventilate so as to completely prevent such accumulation of carbon and hydrogen as would render the mixture of it with the air of the mine explosive.

We now come to the question, how is that to be done? It must strike any practical man that to withdraw the noxious gas as quickly as possible is the desideratum. The attempt, however, to accomplish this, as usually made at present, is very defective. It consists in forcing down the fresh air from the pit’s mouth by blowers or “fans” in a downcast current, and supplementing that force by large fires, creating a draught of air upwards from the lowest and deepest levels through another shaft called the “upcast.”

An experienced miner writes to me as

follows:—“The ventilation of the English and Welsh coal-mines is carried on in three different forms—viz., from grass downward by the downcast, driving the air through the levels, and forcing the current to the upcast shaft. This is now done by a fan placed in a box at top of the mine and driven at a very high rate of speed. By doors placed in the different levels the current of air so created can be forced in any direction required and cut off from the other workings. By keeping large fires burning at foot of the upcast the current of air working through the mine is so accelerated as to carry a large current upward, which in many of the old workings, where large tracts are laid open, is found ample for all the needs of the mine.”

Now, when this plan is examined, what does it amount to? It slowly moves, by great expense of power, the air of the main galleries of the mine, but has little or no effect in ventilating the small chambers not in the line of the main adits, and if the current carries with it a sufficiency of marsh-gas to constitute the fire-damp, it will inevitably, in passing through the “large fires,” undergo combustion. But why has it never occurred to mining engineers that the comparatively small quantity of marsh-gas usually emitted could be more cheaply pumped up and that atmospheric pressure would replace it with fresh air, without any expenditure of power, thereby minimising the danger at small cost, and supplying fresh air without any expenditure of power whatever? and why is it that the mixed air, after escaping all the damaged safety-lamps, is to be drawn to its exit through a large fire at foot of the upcast shaft? For what purpose except to give it a last chance of exploding? Such a mode of ventilation looks like infatuation. In fact one of the late explosions was proved to have occurred at the bottom of the upcast shaft, and must have been caused in this way.

The answers to the questions here asked seem to me plain enough. Careless ignorance has adopted for coal-mines a plan of ventilation used in other mines (lead, copper, tin, &c.) where there is no fire-damp nor marsh-gas to create the choke-damp by explosions. In those mines it is only to be feared that there is a different danger existing (making less noise, to be sure) from the slow-poisoning influence of impure air, while proprietors think it good enough “for all the needs of the mine” because their workmen die apparently of natural causes and not from disasters carrying off hundreds at a time.

I now come to the practical part of this paper. The true guards against fire-damp explosions are as plain as the bad consequences of the present system of ventilation. Let the present system be exactly reversed. Supply the whole mine with ramifications of pipes of air-tight material, issuing from a trunk to be fitted with a centrifugal pump to draw up and expel the air wherever it is foul in the mine, a mechanism which can be regulated by valves and cocks so as to apply the whole power of the pump to the part of the workings in which it may be deemed most wanting. These centrifugal pumps are as great marvels in hydraulics and pneumatics as the Krupp rifled cannons are in gunnery. A very small force will drive a column of air through a 12-inch bore pipe at 30 miles an hour, or nearly 3,000,000 of cubic feet per day, and this may be done much more easily than to expel the whole atmosphere of a mine—both foul and fresh—by machinery, supplemented by fires in the upcast shaft, an auxiliary which obviously should be interdicted by law from being used in collieries.

There is one great advantage which would result from such a reversal of the mode of ventilation as is here suggested, viz., that if it happened that the marsh-gas overpowered the pumps and succeeded in accumulating and causing explosions which shattered the pipes in the workings, the pump would still be available (near the surface and out of reach of danger) to draw away the choke-damp which is frequently more destructive than the ignited fire-damp itself. In such cases the suction-pump would speedily bring

fresh air to the outskirts of the choke-damp, and thus save many of the men who have become insensible but often continue breathing long enough to allow of the access of fresh air for their relief and revival.

For the branch borings, or workings, or parts of the mine which end in *cul-de-sac*, it is manifest, as already stated, that there can be no sufficient ventilation from a forced downward blast of air, and it is in such places that the danger is most likely to occur. There is indeed a certain very inadequate provision for renewing the air in these chambers, but it is not put into operation until “the lights burn dim,” when a boy with a hand-blower or fan and a light wooden pipe is stationed on the line of thorough draught to send in such small amount of fresh air as the overseers think “ample for all the needs of the mine.”

The chief objection to the plan of ventilation I have ventured to propose will be the expense of air-tight main pipes and pumping machinery to be extended into every part of a colliery subject to fire-damp; but why should such an objection be listened to when the onlay is to prevent disasters like those at Barnsley and Abercane? *Coûte qui coûte*, some effectual system of ventilation should be forced upon the proprietors by law. Nor will this be in any degree unjust, seeing that they will find their own interests advanced by every improvement that can be effected in the condition of their workmen, and because the extra expense of the change cannot amount to more than what a few pence per ton on the out-put of coal would repay.

An engineer of large experience in the mechanical line writes to me suggesting the adoption of the exhausters used in gas-making for sucking out the foul air in mines, and thereby reversing the method of ventilation as now conducted, and says “there is no difficulty whatever in making the machines necessary for thorough ventilation of coal mines. The difficulty lies in compelling the proprietors to adopt such machines.”

An appeal to Parliament must be made for inquiry, by committee, into this important matter, when it can be shown that the cost of the proposed over the present mode of working will be trifling indeed, compared to the vast increase of security to life and property in mines which would result from the change. Those machines just alluded to costing from £300 to £500 each, with horse-power from 2½ to 5, will draw off 1,000,000 cubic feet per day, and there are many fiery mines that have not yet so large a cubic content excavated under ground. The power of those machines seems unlimited when one with 30-horse power can be made to pass 7,000,000 of cubic feet of gas per day!! (See Gwynne and Co.’s Illustrated Catalogue, No. 42, 1877). Mechanical science, therefore, with the centrifugal pumps or the gas exhausters, has provided a remedy for those terrible disasters which are of such frequent recurrence, and the only difficulty which still remains is to induce mining proprietors to use it. This, however, is a difficulty which can be surmounted.

## THE PRESIDENT’S ADDRESS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

(Concluded from page 252.)

I HAVE not this year many such triumphs of archaeological research and discovery to record as in my last address. We now probably know all that Dr. Schliemann is likely to be able to teach us as to Mycenæ. With a noble restlessness he has been exploring and excavating in Ithaca, but has unearthed no antiquities, and has made up his mind that none are to be found, and that he must fain content himself with having, as he believes, identified the sites of places made classical by Homer; but he returns to his labours in the Troad under more favourable circumstances than before, and with renewed hope and enthusiasm. At Olympia, German explorers have been perseveringly continuing in their work, but unfortunately they have

\* By Mr. Henry Stokes. Read before Institution of Civil Engineers of Ireland, December 4th.

not, I believe, been rewarded by any important discovery. The site of ancient "Dodona" has been further identified by Mr. Carapanos, who has found a number of works in bronze, which, though of a low style of art, have nevertheless much interest archæologically, and have been useful to him in sustaining his identification of the city. He has, however, discovered no architectural remains and but few sculptures, and those of small interest. In Italy, indeed, we are told of an interesting discovery near Monte Gargano in Apulia, viz., of the city of "Sipontum" mentioned by Strabo and Livy, which seems during some of the volcanic earthquakes, of which traces are everywhere to be seen in that locality, to have subsided and been bodily swallowed up while the earth closed upon it. Its buildings (of course, overthrown and ruined, but still *in situ*), are upwards of 20 ft. below the present soil. The authorities of the locality and also the Italian Government are taking steps on a liberal scale to pursue the excavations. Porticos and temples have already been laid bare, while many stones with inscriptions of various value have been sent to the National Museum at Naples, and will engage the attention of classical students and archæologists. Doubtless, ere very long, detailed descriptions will be forthcoming. Meanwhile, I would only record the fact that, in the year 1877, a second Pompeii has been laid open to us.

I will not quit this part of my subject without referring, as in former addresses, to that land of all lands interesting to us, from associations of art history, but above all of faith in our religion—Palestine. Much has been done there, as you know, and the zealous committee who are directing the operations, or rather collecting the means for the operations, having completed a thoroughly reliable survey of the country west of Jordan, are now proposing to follow the "excavating" examples set them by other discoverers; to search out *under ground* and identify the sites or remains of buildings, the history of which appeals to our highest and holiest feelings, because they have, it may be, been actually sanctified by the bodily presence of our Saviour while on earth. Around the Sea of Galilee they propose to work, and most of you have no doubt already received, with their appeal for funds, a statement of their intended operations, which must awaken extraordinary feeling even by the bare recital. The modest sum they need is, they say, only £2,500, and they have, I am sure, our hearty wish that they may readily obtain it. It might not be, perhaps, deemed inappropriate if some moderate subscription were made by this Institute, if only as evidence how truly we wish them success. While, however, sympathising most cordially with them, we architects have a right, I think, to complain of a most singular imperfection in the composition of their proposed exploring staff, which is to consist of Royal Engineers, of a geologist, a naturalist, and an Arabic scholar, *but no architect*. When the first objects of their quest are to be for the sites and remains of ancient buildings, to be without an architect with them seems to me like attempting to read history without having learnt to read. This, surely, only needs to be mentioned for the committee to supply the omission, because many earnest and competent men among us would, I am sure, readily volunteer for the work on payment of their actual expenses only. If I may be allowed to say so above a whisper, I would suggest that one of the Royal Engineers could better be spared than that the party should be without an architect to take an intelligent record of plans and arrangements of mearthed buildings, to make reliable drawings of mouldings or sculptures that may be found,—in short, to import to the undertaking that peculiar kind of power which an architect's special training gives him, and without which aid the results of the expedition are likely to be only half satisfactory.

I must resist the temptation to consider with you many other subjects of professional interest to all, and to architects in particular,

which have been ventilated during the past year: such as the great subject of technical education for our artisans,—the electric lighting of our cities and public and private buildings,—the adequate supply of pure water to this huge metropolis,—the hitherto extraordinary delay in carrying out the intended beneficial operation of "The Artisans' Dwellings Act,"—the many important street improvements in progress and projected,—the annihilation of the Thames as a barrier to circulation between North and South London, by the gradual and early abolition of all bridge tolls. Want of time and space, and regard for your patience, warn me that I must only allude to these interesting subjects, some or all of which may perhaps form the subject of papers to be read in this room. Equally, I can only barely refer to the very valuable and instructive papers read before you during the last session, and the frequently prolonged discussions which took place on them. I ask, however, while on this subject, to be permitted to urge on our members that, to secure a really practical interest in our meetings, we ought to take up courageously the challenge so frequently made to us, and to discuss among ourselves—with that special knowledge we ought to possess and which many of our members do possess—technical questions affecting the life and happiness of those whose houses we are called upon to design and arrange. It ought to be impossible to allege with truth, as is so often done, that architects care only for the æsthetical, and delegate to subordinates the vital questions of ventilation, warming, lighting, sanitary arrangements, and cognate matters.

And now to turn for one minute to the subject with which I propose to conclude my address, viz., "The Past and the Future of our Institute."

In referring to the past of our corporate life, let me render a heartfelt tribute of gratitude to those who founded the Institute, and who, through so many painful and even discouraging years, watched over its infancy and struggles into greater strength. They began their labour when the appreciation of art as such in architecture was, if not forgotten, yet peculiar to a very few, and utterly neglected by the large body of the public. They have some of them lived to see the time when art-study, and hence art-knowledge, has become recognised as a necessity to all ranks, from the pupil at a Board school, part of whose compulsory education is now to learn to draw, passing on through the public schools of science and art, gradually establishing themselves throughout the length and breadth of the land, and spreading art-knowledge, refinement in taste and appreciation of the beautiful among all the middle classes; then reaching upwards to higher social ranks of society, among some of the members of which higher class it was once thought rather a mark of distinction to profess ostentatiously a contemptuous indifference to any study so unimportant as that to which artists devote their lives, but where now it is happily deemed a mark of ignorance to be unable to enjoy intelligently, and to discuss with knowledge, artistic questions as they may arise from time to time,—questions which are now even of sufficient importance occasionally to agitate society. Those early members of our Institute laboured on with their good work, and with a faith and prescience that does them infinite credit, and can never be too much appreciated by us, their successors. They laid the foundation of the society of brethren they were endeavouring to form, on,—firstly, a more and more careful study of the refinements, the hidden beauty (to be revealed only to the earnest and intelligent student), and the grand scope of architecture taken as a fine art; and, secondly (and no less), on strict integrity of practice in discharge of the manifold duties of a profession where the architect must be, as it were, a trustee for his client, while he must be absolutely just to those who are employed under his direction. That the structure of our Institute has well and nobly stood on these solid found-

ations, and that they are still deemed essential to its vigour and usefulness, let the gradually-increasing roll of names on the list of members, and the fearless position we have gradually become able to take before the public, be the reply. It remains now with us, and, for the future, with those who succeed us, to lose not an inch of the ground that has been won; and to encourage us we may remember that the effort to keep up motion is small indeed compared with the force originally necessary to overcome inertia and give a momentum for the first time. . . .

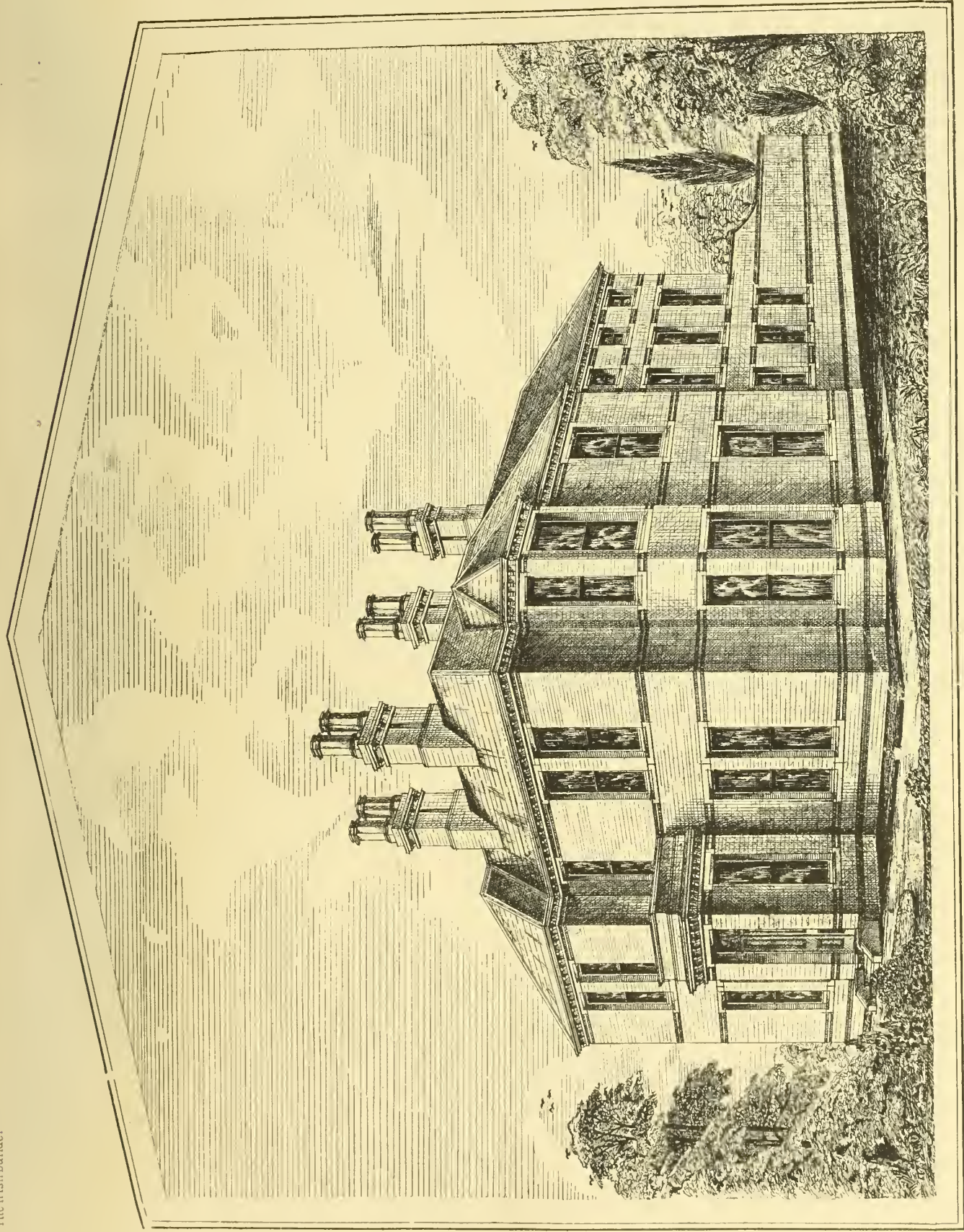
It has been my happy privilege since this time last year to visit our professional brethren (at their earnest and cordial invitation) in more than one important city, and last, not least, in Dublin, where I found Irish architects most keenly alive to our action, and whence several new members have expressed their intention to enrol themselves; while our members in Scotland also are increasing each year, no less than the architects of our chief provincial cities. I should, indeed, be ungrateful and insensible if I did not take this opportunity of making known to you that the warmth and consideration with which I have been received by our professional brethren in all parts, as representing you, cannot be exceeded, and deserves your cordial acknowledgment; and that the universal wish in every place I have so visited is to enjoy closer connexion with the Institute, which I have always found regarded with respect and sympathy, and never with jealousy.

It is my earnest hope that during the coming year some scheme of mutual systematic working of our professional objects throughout Great Britain and Ireland shall be brought before the Council, whether in the mode indicated in last year's address, and embodied in a paper sent to all known societies in the kingdom, or in some other form. This communication has as yet very partially responded to, and I am to me the natural and necessary work of the last two years. The difficulty is true, but the difficulty, fairly faced and grappled with, is deemed insurmountable, I am sure.

#### HEALTH QUESTIONS.

AMONGST the topics treated in the address of Lord Alfred Cecil at the opening meeting of the Society of Arts on the 20th ult., we find the following on Water Supply and the Health and Sewage of Towns:—

A special work which the council has on hand, and which it is intended to carry on, is that comprehended in the Congresses on Health and Sewage of Towns, on Water Supply, and on the teaching of Domestic Economy in the elementary schools of the kingdom. Already, as you are aware, there have been three congresses or conferences held under the title of "Health and Sewage of Towns," and with marked success. The Water question, one of national interest, was taken up on the suggestion of his Royal Highness, the President, as embodied in his Royal Highness's letter addressed to the council in January last, and it formed the subject of a separate congress. This question is, however, so important in a national point of view, and still excites so much interest, that the council have—wisely, in my opinion—determined that it shall not be dropped, but shall take a place in the programme of the next congress on "Health and Sewage of Towns." The scope of the fourth congress, to be held in May next—following the advice of Mr. Stansfeld, the active president of it—will be extended so as to embrace the discussions of all these subjects; interpreting "Health" in its broadest sense, and not merely as connected with the sewage of towns only. In accordance with the resolutions passed at the Water Supply Congress, the council will endeavour to find a convenient



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opportunity of bringing before her Majesty's Government the absolute necessity of dealing with this question in a national sense, and taking steps for rendering "the great natural resources of the kingdom," to use the words of his Royal Highness, available "for the general body of the nation at large." It is evident that, in dealing with this question, the saving of our rivers from pollution forms a very important element, but not the only one, as other sources of supply have to be dealt with. Doubtless you are aware that an act has been passed with a view of preventing this pollution of rivers, but, unfortunately, its provisions are so hampered with conditions of all kinds, to say nothing of its permissive character in many respects, that, for all practical purposes, the act may be considered as but a dead letter. The evils have been repeatedly pointed out by Royal Commissions and Parliamentary Committees, and the time has arrived when something practical should be taken in hand. Difficulties no doubt exist, but it is the duty of a statesman to overcome difficulties, and I think it can hardly be said that in the present case they are insuperable. But rivers are not our only sources of supply; lakes, both artificial and natural, as well as underground waters, must be resorted to. Each district has its own specialties and needs its own special treatment, but this does not preclude the adoption of a general system, sufficiently elastic to meet the varying requirements of each. Local administration, with its local knowledge and local interests, might, as it seems to me, fairly be entrusted with the general treatment and conservancy of the river basin, and with the consideration of the claims of each district on the sources from whence a supply might be taken; whilst a supervising authority might be vested in the hands of a competent central body, to advise, control, and direct. The central body might collect into one focus all the information already accumulated in reference to these various matters—but buried, so to speak, in Blue-books, and other stores of information—and, where needed, seek by the necessary surveys and examination such further information as may be required from time to time to supplement what is already known. It should also be prepared to supply such data on application from any district authority needing it. Whilst on this subject, I may state that the Committee on Water Supply have had prepared, for reference, a catalogue, or digest, of all that has hitherto been done in the way of inquiry and collection of information on this subject. This information is at present scattered in Parliamentary Blue-books, various official Reports, Transactions of societies, and other works. Such a Digest, or collection of information, has never hitherto been prepared, and it cannot fail to be of great assistance to all interested or engaged in investigations connected with water and water supply. Whilst speaking of the pollution of our rivers, let me advert to the Thames, into which we are pouring all the filth of this metropolis, whilst other towns are precluded by acts of Parliament from casting their sewage into their neighbouring streams. Public opinion at the present time points to this anomaly, but whether anything will be done to remove it remains to be seen. How this removal should be effected, and what are the details which should be adopted, it is not for me to say; it is clear, however, that discussion on all such matters cannot fail to assist in the solution of a question which, I venture to think, cannot much longer be postponed.

While, however, the sewage question is necessarily involved in the purity of our rivers, there is another aspect in which it deserves our most serious attention, viz., its effect upon the health of our population. To this comparatively little attention is given—though I am glad to observe that public interest is being aroused—and neither the builders of houses nor those who live in them are sufficiently alive to its importance. We construct costly and efficient sewers, but, as a rule, we take little care how we make use

of them. We connect our houses with them in such a way as to bring the unhealthy gases direct into them. It is not sufficient that a town should be well drained or well sewered; these are simply means to an end, but the end is too often neglected. Unless the house arrangements for connection with them are carefully made, it may be safely stated that the very sewers may become a curse rather than a blessing. It is to be feared that such is the case, to a very considerable extent, in a large number of our towns, not omitting the metropolis. Too little attention has hitherto been paid to this matter. The occupier takes his house upon faith, and not until the deadly effects of imperfect connections manifest themselves by impaired health on the part of himself or his family, is any heed given to the cause. It may be that no actual case of typhoid or diphtheria manifests itself, but disease is there, nevertheless, insidiously pervading all subject to its influence, and bringing on a lowered state of vitality, which renders the sufferer less capable of resisting the attacks of any unfavourable circumstances which may arise. An increased death-rate is the result. A greater supervision in the first instance is needed, to secure the proper connection of the house with the drains. It may be said that this is so obvious a matter of interest to the occupier that he will look to it himself. Experience shows that such is not the case. In the first place, the public generally are not alive to the evil; and, in the next place, in the great majority of instances, the occupier has nothing to do with the building of the house, and even if he has, or desires to investigate before he takes his house, the subject is so little understood, and the difficulties of getting anything like accurate knowledge of the state of the drainage—necessarily, from the nature of the case, covered up—so great, that the occupier takes his house upon faith, and suffers accordingly. With a view of diffusing information, especially in connection with this subject, the council have a proposition before them for establishing a Sanitary Section, with a committee especially appointed to take charge of it, who, in the intervals between each congress, shall meet, and amongst other things, make such arrangements as may be calculated to aid members of the Society in obtaining information connected with this special subject, as well as reliable reports as to the sanitary condition of their houses. It remains yet under consideration whether this proposition will be adopted.

#### THE HEATING AND VENTILATING APPARATUS OF THE GLASGOW UNIVERSITY.\*

The paper stated that, in spite of the lightness of the atmosphere, it obeyed the laws of gravitation, and was subject to those laws of inertia, in virtue of which no body could change its state of repose or motion, except by acting in accordance with the forces which influenced it. In 1864, when the new University was resolved upon, a sub-committee—including, among others, Sir W. Thomson, Dr. Allen Thomson, Professor H. Blackburn, and Dr. Rankine,—considered the general principles which should form the basis of the operation, to secure the most efficient system of ventilation and warming. The apparatus described was based on their suggestions. The velocity at which the air should travel at different parts of an apparatus was of great importance, as it fixed the area of the inlets and outlets of the air passages. An increased area of the inlet over the outlet of the space to be ventilated was advisable, and the distribution of air into such spaces should be at mid level, combined with an upward and downward extraction of the air. In determining the form of the air passages, the resistance to the air in motion should be considered; in no case would it be advisable to have sharp angles or sudden contraction in

such passages. The form of fan was selected on account of the good results obtained in previous buildings in which it had been used, and because it was not of a complicated construction. The volume of air evacuated by an extraction shaft depended on its area, and on the difference between the internal and external temperature that could be maintained in the shaft, which difference should not be less than from 30° to 40° Fahrenheit. Practice proved that an allowance of 5 to 12 square feet of heating surface, at a temperature of 160° Fahrenheit, was necessary for every 1,000 cubic feet of space to be warmed, and that the best form of boiler for an extended apparatus was the Cornish type. The apparatus consisted of a fan 7 ft. 6 in. in diameter, having four blades set at an angle of about 60°, fixed on a spindle parallel to the axis of the air channel, and driven by a direct-acting 8 h.p. steam engine. It drew its supply of air from a height of 100 ft. above the level of the ground, and forced the air through a series of passages into five distinct chambers. In these chambers the fresh air was warmed, previous to its distribution, by being passed over the surface of 4-in. hot-water pipes, arranged in coils, each chamber having its distinct hot-water boiler. The air then left the chambers and passed to a secondary series of passages in direct communication with the rooms, through vertical shafts formed in the thickness of the walls. The air, after its circulation over the different spaces, was carried away by a third series of shafts formed in the roofs, in communication with the main extractor, situated at the east, south-east, and south-west angles of the building. The heating surface distributed over the building was about 20,760 square feet. The cubic space to be warmed, including the amount of air necessary for ventilation supplied by the fan, was about 3,800,000 cubic feet, and the average consumption of fuel daily was 2 tons 3 cwt. for a difference of 125° Fahrenheit between the temperature of the pipes and the spaces to be warmed. The volume of air supplied per hour to the building was 1,800,000 cubic feet. The cost of the annual maintenance of the apparatus was about £500.

#### THE FUTURE OF THE ELECTRIC LIGHT.

##### A GAS MANAGER'S OPINION.

THE following report by Mr. James Stelfox, manager of the Belfast Gas Works, was read on the 2nd inst. at the monthly meeting of the Belfast Town Council, and unanimously adopted:—

TO THE CHAIRMAN AND MEMBERS OF THE GAS COMMITTEE.

"In attempting to bring before you, in a concise form, the present position and prospects of the system of electric lighting, I feel under some disadvantage, inasmuch as I am compelled to seek my information from the statements of others, with many of which you will be familiar through the columns of the newspapers. I can, therefore, but endeavour to summarise the results of my reading.

As to cost.—It seems that this, perhaps the most important consideration of all, is the one on which there is most diversity of opinion. From one source we learn that, light for light, gas is forty times more expensive than electricity. From another we receive the information that the advantage is entirely on the other side. It certainly has been stated in every report which I have been able to study, that those who have taken the trouble to investigate, have declared their inability to express any opinion on this point. Until, therefore, some reliable information is available, it will be impossible to speak with any degree of certainty on this matter. One feature, however, of the discussion as to cost may be mentioned, viz.:—that in computing the outlay necessary for the supply of electric lights, not one of the advocates of the system has taken into consideration the absolute necessity of having duplicate or triplicate apparatus. The machinery of a gas works is of the simplest description and not likely to get out of order, and yet gas managers know, even with duplicate apparatus, how difficult it sometimes is to satisfy the demands made upon them. Electrical apparatus is of a very much more intricate description, requiring nicer

\* By Mr. Wilson W. Phipson, M. Inst. C.E. Read at Institution of Civil Engineers (London), on the 3rd inst.

adjustment and more careful supervision, and, as the machines are worked at a very high speed, the wear and tear must be very considerable. The absolute necessity for a most extensive reserve plant is, under these circumstances, quite apparent.

Perhaps I shall best fulfil the wishes of the committee in asking for this report, by setting forth a few of the advantages of gas lighting, and comparing the claims of the new system therewith.

It is claimed for the present system that it is convenient. Any householder, he his consumption ever so small, may have it introduced into his dwelling. He can have one light or many, and can moderate the amount of his illumination to his exact requirements. In this respect no system of electric lighting at present available can compete with gas; and even if the subdivision of the electrical current could be effected to an extent at present considered problematical, it does not appear that this could be done so as to give the consumer the same amount of control that he at present exercises. The occupier of one house might require a light equal to 50 candles, and his neighbour one of 1,000 candles, and the latter might not wish to have the full supply at all times. It seems incredible that any regulation of the electrical current can be effected to meet these varying requirements.

Another instance of the superior convenience of gas to any known system of electrical lighting is furnished by the fact that, whereas gas can be used in the smallest quantities, and exactly at such places as may be required, electricity can only be used economically to produce intense light at particular centres.

It is universally admitted that by subdivision there is great loss of illuminating power. The general expression of public opinion is, that the new system is likely to succeed for street lighting, and for the illumination of large buildings. It does not, however, seem that even in these respects there is any particular advantage to be gained by the supersession of gas. If towns were simply long streets or avenues, it would be easy to effect the necessary lighting by a line of electric candles; but where every principal street is intersected by other streets, and these again by others, it would be impossible to light the district unless each had its "candles." No town could be considered well lighted the main streets of which were flooded with light, while its back streets were in darkness, or, at least, in shadow. As to large buildings, it is a matter of taste whether the illumination should be from different sources or from one brilliant centre, and I should have no hesitation in expressing my preference for the former.

In referring to the question of cost, I have shown that all the calculations submitted to the public are based on a theoretical estimate of the effective value of a single set of machinery. I may, therefore, remind you, as also bearing upon the question of cost, that the general belief as to the amount of illumination afforded by the electric light depends upon the unsupported assertions of the interested advocates of the new system. The most experienced photometrists of the day have expressed their entire disbelief in the statements made in this respect; and only ten days ago it was publicly stated by Mr. William Sugg (than whom we have no better authority) that a light which was said to be equal to from 4,000 to 6,000 candles was really only equal to from 1,500 to 2,000 candles.

It will be easily seen that all calculations must be unreliable which are based on such figures, and we must delay our final judgment until we are enabled to rest it upon evidence of a more decided character.

There can be no doubt that the present feeling of alarm among those interested in gas securities will call forth increased energy on the part of those whose duty it is to provide the public with light.

As regards the impression very generally entertained that gas is about to be superseded, I think it is only necessary to remind you that there is daily an increase in the demand for it for purposes other than lighting. The use of gas for heating and as a source of power is daily becoming more extensive, and as this supply would mainly be required during the day-time, when the entire system of mains would otherwise be comparatively unemployed, it may be expected that a reduction would be effected in the percentage of gas at present unaccounted for. The introduction of the electric light would undoubtedly increase the consumption in this way, as there can be no doubt that the gas engine is by far the most economical and suitable machine for giving the required power. I may mention that, after lengthened experiments, the "Gas Light and Coke Company," who represent about 10 per cent. of the entire capital invested in gas works in the United Kingdom, have resolved to defend their commodity as against electricity, and to endeavour to extend the demand by encouraging its use in the ways I have mentioned.

Some writers seem to think that gas-makers must, if they wish to compete with the electric light, increase the illuminating power of their gas. This means extra cost of production, and would inevitably check the adoption of gas as a means of heating and power. I am quite convinced that a reduction in price will largely increase the demand, and I believe that gas-makers have nothing to fear from the new system, which, if it robs them of a few consumers (and it is certain it will have some patrons), will open up a new field for the use of gas. There can be no doubt that each reduction in cost will bring in new consumers of a class not likely to be reached by electricity.

I may be allowed to say, in conclusion, that I am more and more firmly convinced from all I have been able to gather from reading, and from conversation with those who have taken the trouble to investigate, that there is nothing before the public, or considered by the best authorities likely to be, which would warrant the great depreciation in the nominal value of gas stock; and those whose views are most entitled to respect from their experience and position, in the scientific world, do not seem to entertain the idea that electricity will effectually compete with gas.

### SANITARY PRECAUTIONS IN THE NORTH.

A MEETING of landlords and others was recently held at Lisbellaw, Co. Fermanagh, to promote the sanitary condition of the rural population. It was recommended that tenants should make their ground floors level, so that they can be readily washed or swept—their present uneven surfaces affording means for the collection of dirt and the generation of foul gases. Where possible, to have bed-rooms upstairs, with window-sashes arranged to open and shut, and to avoid the use of press-beds, in which the health of the sleeper is impaired by breathing the same air over and over again. It was suggested that these improvements could be effected by the tenants' own hands, and at little cost. It would appear that many families are more alive to the advantage of providing cleanliness and good air for their cattle than for their own health. A thorough lime-washing annually of their houses was urged. The meeting next considered the necessity of promoting the local water works, and called upon the poor-law guardians to look after the sewerage in their various unions. An interesting lecture by Mr. Eadie on "The Laws of Health," lately delivered by him before the Young Men's Society, is to be repeated in the Town Hall.

### DRUMCONDRA TOWNSHIP.

At the monthly meeting of the commissioners on the 2nd inst., at their offices, Burnett-place, Mr. Leonard, township engineer, reported that with reference to the state of the roads which had come under his charge, he could not congratulate them; their state called for an immediate outlay. Much required to be done in order to put them in a position to compete with other suburban districts, and thereby offer inducements to capitalists to invest their money in building operations and becoming residents. The footpaths were imperfectly constructed, and there was all but a total absence of crossings, there being only one in the township. The total estimate of the expenditure to bring these roads into proper condition, with lights, &c., would be about £3,000. He suggested the asphaltting of several of the footpaths in the township, and that they should make proper provision against fires, as he feared that the pressure of the Varsity in the more isolated parts of the district would not be sufficient. He believed they should adopt a liberal and vigorous policy, which would save expense at a future time. At the end of five years they would find that what now appeared to be extravagant would turn out to be sound and wise economy.

It was proposed by Dr. Gogarty, seconded by Mr. McCarthy, that the report of the engineer be referred to No. 1 Committee, to report to the board from time to time such

portion of the work as they deemed advisable to carry out. The resolution was adopted.

Dr. Gogarty proposed, and Mr. McCarthy seconded, a resolution that the secretaries of the grand jury be requested to hand over to the commissioners of the township any money they might have to the credit of Cemetery-avenue, Cody's-lane, and Richmond-road.

Mr. Edward McMahon proposed—"That, as a proper system of drainage for this township is much needed, and as the plans for same have been prepared by Mr. Leonard, C.E., and approved of by the Local Government Board and the Sanitary Board of the North Dublin Union, but the carrying out of which was opposed by the Clontarf Commissioners, the Port and Docks Board, and the Dublin Corporation, we therefore respectfully request the Local Government Board to advise us as to the course we should take to carry out this much-needed work." He said it was strange that such a body as the Corporation would not assist them in this matter. The place where the sewage would be discharged would be at the place known as the "Smoothing Iron," and far from the city boundary. At present where the sewage was emptied was adjoining the city boundary, and added to a great extent to the city death-rate. He referred to the slob at Annesley Bridge. Mr. S. McCarthy seconded the resolution, which was adopted.

### AN ARTIST VERSUS AN ART CRITIC.

IN the Exchequer Division, London, on the 25th ult., *Whistler v. Ruskin* came on. It was a case brought by an artist against the well-known critic to recover damages to the amount of £1,000 for an alleged libel on plaintiff contained in an article which appeared in *Decorative Art*, a publication, *Fora Clavigera*, and in reference to certain pictures exhibited by plaintiff in Sir Coutts Lindsay's Grosvenor Gallery, in the passage complained of defendant wrote—"Sir Coutts Lindsay ought not to have admitted works into his gallery in which the ill-educated conceit of the artist has so completely approached the aspect of wilful impudence. I have seen and heard much of Courtenay Lindsay since before now, but never expected to see a coxcomb ask two hundred guineas for a pot of paint in the public eye." Sergeant Parry having opened the case, *Whistler* was examined. He gave an account of his studies and experiences as an artist, and said he had frequently exhibited works at the Royal Academy, the Dudley and Grosvenor Galleries, and elsewhere. Since the publication of the criticism, his pictures did not realise former prices. On cross-examination by the Attorney-General, witness said he had sent pictures to the Royal Academy which were not exhibited. Believes that is the experience of all artists. The last picture of his rejected was "Arrangement in Grey and Black—Portrait of the Painter's Mother." That was afterwards exhibited at the Grosvenor. The "Arrangement in Black and Gold" is a night view of Cremorne with the fireworks. That is the reason why he called it a "Nocturne." It was for sale. Marked it at 200 guineas. It was a good price; very likely a stiffish price. Never had the pleasure of meeting Mr. Ruskin. Have read some of his works, but had not read his "Stones of Venice." Know his other work "Modern Painters." It is probably the view of Mr. Ruskin that an artist should not let a picture leave his hands which by labour of his own he could improve; and that an artist should give value for the price he receives for a picture. Has often been told that his pictures exhibit eccentricities. When he sends pictures to exhibitions, expects they will be criticised. The "Nocturne in Blue and Gold" he knocked off in a couple of days. Painted the picture in one day, and finished it off the next day. Does not put his pictures in a place to mellow; but exposes them in the open air to dry as he goes on with his work. Thinks that is a good thing, and if he

were a professor he would recommend it to his pupils. He would not ask 200 guineas for a couple of days' work; the picture is the result of the studies of a lifetime. The jury found for plaintiff, with one farthing damages, and the court refused to certify for costs.

## THE SOCIETY OF ARTS.

### INDUSTRIAL EDUCATION.

On the opening of the session for 1878-9 of this society on the evening of the 20th ult., Lord Alfred Churchill, the president, delivered the usual address. He welcomed the establishment of the "City and Guilds of London Institute," and expressed the willingness of the Society of Arts to hand over the technological examinations to those establishments.

On the subject of "Technical Education," with which we dealt in our last issue, the president said:—"On the whole, I think I may say that the prospects of technical education were never brighter. We have two wealthy public bodies, the Commissioners of the 1851 Exhibition and the new Institute of the City Companies, considering how best they may bestow their funds for its advancement. We ourselves are steadily working in the direction in which we started, and are now—after no small labour in originating this great movement—equally ready to carry on this work, or to hand it over to any who can show themselves better qualified and equally earnest. With all surrounding circumstances thus favourable, we may look hopefully forward to a future, now not far remote, when a great blank in our system of education shall be properly filled up, and the great class of workers, upon which so much of our national prosperity depends, shall no longer depend on accident or good fortune for the means of acquiring that knowledge by which alone practical handicraft skill can be suitably directed and wisely applied."

We also learn from the president's address that the Society of Arts, with the co-operation of the Royal Commissioners for the Paris Exhibition, had been enabled to assist 206 selected artisans to visit and study the exhibits, and report on their respective branches of skilled labour. The artisans and workmen sent to Paris represented over forty different branches of industry, and the reports of these men will shortly be published. We have no doubt but several of these reports will be found both interesting and useful.

## MUNICIPAL LEGISLATION AND EXPENDITURE.

THE proceedings of the Corporation meeting of the 9th, as reported, are very suggestive indeed. The lively discussion as to exchanges in the formation of committees is also worthy of note, though we fail to see where the new blood was to come from. The blood that is to purify the council and lead to the better working of the committees exists at present to a very small extent within, and it can only come from without by a better representation. A dead set was made upon Mr. French, and though he is not faultless he has worked with the best intentions, and generally in the interests of the ratepayers. He has advocated economy, and very often blurted out unpalatable truths, and in consequence has not pleased a number of the members who would doubtless prefer his room than his company on certain committees.

We have not time on the present occasion to analyse the report of the Finance and Leases Committee that was read at the meeting; but we may hereafter return to the subject. The estimates as furnished are certainly of such a character as to challenge discussion; but of late years municipal estimates, whether appertaining to the work of the current year or to projected improvements, have always a swollen appearance. The system of "lumping" has

long obtained in the Corporation, and clear and distinctive details do not at all agree with the constitution of municipal financiers. Every corporation balance-sheet of late years shows that the questions of "sundries" and "incidentals" are well thought out, and if a good lump sum is not provided in the beginning for any one department, the audit will be disagreeable in the end.

With these few introductory remarks we append the report alluded to, with a portion of the discussion that took place on the head of the estimates:—

"Your committee beg to report that they have had under consideration the estimates prepared by (1) the Paving, Lighting, and Cleansing Committee, (2) the Markets Committee, and (3) the Finance and Leases Committee, for expenditure chargeable on Improvement Rate for the year 1879; and also the estimates of (4) the Public Health Committee for expenditure chargeable to the Improvement Rate, pursuant to the order of the Local Government Board of the 30th November, 1878, and the Sewers Rate. The estimates appear to have received careful consideration, and your committee beg to recommend them for adoption. The estimate for Sewers Rate has been framed by the Public Health Committee so as to render necessary a rate of only two pence in the pound, being half the amount generally required. This will include interest and sinking fund on the loan proposed to be taken up for completing the sewer works of the city. On the other hand, owing to the transfer of the incidence of charges in respect of expenditure for sanitary purposes from the Borough Fund to the Improvement Rate, by order of the Local Government Board, made this day, under sec. 226 of the 41 and 42 Vic., cap. 52, a rate for improvement fund purposes in excess of that hitherto levied becomes necessary to meet the expenditure. Thus the estimated expenditure of the Public Health Committee, as detailed in the Report, No. 220, of 28th October, amounting to the net sum of £5,049, in addition to the ordinary requirements, entails a rate of 2s. 2d. in the pound; and the estimates of the committee have been augmented since the Order of Council of the 18th November, transferring the duties in regard to removal of house refuse from the Paving, Lighting, and Cleansing Committee. The additional expense for the year 1879, thereby entailed, is estimated by the committee at £5,000. The total estimates for Improvement Fund purposes, as agreed to by your committee, amount to £74,674 18s., so that a rate of 2s. 4d. in the pound becomes necessary. Your committee beg to recommend that a rate of one halfpenny in the pound be levied for Vestry Cess Abolition Fund, pursuant to the report and estimate of the City Treasurer and City Accountant."

Mr. Gray said that the estimates for maintaining the macadamised and paved streets were past his comprehension. He found that the estimate for macadamised streets last year was £12,000. This year it was £11,000. That was a reduction of only £1,000, although they contemplated the borrowing of £100,000 to expend it in paving, and they had already spent £20,000 or £30,000 out of the £50,000 they had already borrowed for the purpose. He thought there ought to be a much larger reduction in the cost of maintaining the macadamised streets. He proposed that the estimates for the macadamised streets should be reduced from £11,000 to £10,000, and that the estimate for paved streets should be increased from £4,000 to £5,000. They were largely increasing the number of paved streets, and it was therefore to be expected that the cost of maintaining them would be increased. While on this matter he wished to call attention to the fact that a resolution directing the committee to inquire how the expenditure on the street lighting could be equalised—whether by a reduction of the hours of lighting in some of the less-used streets, or otherwise—had never been obeyed.

Alderman Gregg said these were mere estimates. The actual expenditure on macadam last year was £15,000. The fact was, that before they commenced the paving of the streets many of them were totally neglected, and these were now being put in order with macadam. The cost of the gas was £10,401 8s. 4d.

Mr. Gray's motion was adopted.

The Town Clerk then read an "opinion" of the Solicitor-General as to the Improvement Rate estimates and the Public Health Committee estimates. The Solicitor-General stated that there were difficulties in the case; but assuming that the order of the Local Government Board varying the incidence of the taxation had been properly and legally made, he was of opinion that the expenses incurred or payable by the urban sanitary authority of the city are now to be borne by the Improvement Rate, and

was of opinion that under these circumstances the effect of the 227th section of the act is, that the limit imposed on the Improvement Rate by the act 1849 no longer exists—at least to the extent that the estimate showed that such rate was required for the purpose of carrying out the Public Health Act. He was of opinion that it was right to show in the certificate the two estimates separately and distinct, but there ought to be no separate and distinct rates. He was further of opinion that many objections might be taken to the form of the second portion of the estimate. It seemed to be loosely drawn, and he thought it would be very desirable to show in more detail the various heads of expenditure. He also objected to certain items on the estimates.

Mr. Gray wished it to be understood that whatever delay there had been in connection with these estimates was not due to the Public Health Committee, by whom they had been sent to the Finance Committee a month ago. He begged to move the omission from the estimates of expenditure under the Adulteration of Food Act, which Mr. Holmes considered ought to be levied under the Grand Jury Rate. This would reduce the estimate by £139, and there would be on the other side a reduction of the income from the penalties for the sale of unsound food to the amount of about £150. There would therefore be a net increase of £11.

The matter was agreed to.

Considerable further discussion took place with regard to the estimates, and in the course of it Mr. Gray said that although the Sewer Rate proposed was but 2d. in the pound—about half the amount hitherto usually levied, and it would take more than double that amount in order to do the work efficiently—still they hoped by domestic scavenging and the removal of house refuse to recoup themselves to a considerable extent by disposing of the sewage in order that it could be used for agricultural purposes.

Mr. Dawson also spoke on the value of the sewage to agriculturists, and felt sure that when it became known that the Corporation intended to offer it to those engaged in farming pursuits, advantage would be taken of the opportunity presented, the same as had been done in the case of many other large towns and cities. He hoped that agricultural people would see that it was to their interest to give a fair price for the commodity that was to be sold.

The following estimates, subject to the amendments already stated and some others of a comparatively trivial character, were then passed:—

|   | £    | s. | d. | £     | s. | d. |
|---|------|----|----|-------|----|----|
| Paving, Cleansing, and Lighting Committee .. ..                                       | 61   | 25 | 11 | 9     |    |    |
| Markets Committee—  |      |    |    |       |    |    |
| Net Estimate (including £900 for new Building for Weights and Measures Department) .. | 662  | 2  | 10 |       |    |    |
| Finance and Leases Committee ..   | 2705 | 3  | 5  |       |    |    |
| Public Health Committee—  |      |    |    |       |    |    |
| Net Estimate (exclusive of Estimate for Removal of House Refuse) .. ..                | 5049 | 0  | 0  |       |    |    |
| Estimate of Expenditure for Removing House Refuse ..                                  | 5000 | 0  | 0  |       |    |    |
|   |      |    |    | 10049 | 0  | 0  |
| Total, £74,674 18 s. 0  |      |    |    |       |    |    |

The Town Clerk was then authorised to forward to the Collector-General the resolution striking an Improvement Rate of 2s. 4d.

Mr. Gray then moved the adoption of the sewer estimates, as follows:—

|  | North Sewer<br>Estimate |    |    | South Sewer<br>Estimate |    |    |
|--|-------------------------|----|----|-------------------------|----|----|
|  | £                       | s. | d. | £                       | s. | d. |
| Repairs and Maintenance of<br>Sewers, Tide-gates, Gullies, &c. | 1200                    | 0  | 0  | 1700                    | 0  | 0  |
| Interest on £5000 for six months,<br>at £½ 8s. 6d. per cent.   | 135                     | 9  | 5  | 135                     | 9  | 8  |
| Ventilators .. ..  | 100                     | 0  | 0  | 400                     | 9  | 8  |
| Salaries .. ..   | 250                     | 0  | 0  | 450                     | 0  | 0  |
|  | £1685                   | 9  | 5  | £2685                   | 9  | 5  |
| Contingencies, 12½ per cent. ..                                | 210                     | 13 | 8  | 343                     | 13 | 8  |
| Total,   | £1896                   | 3  | 1  | £3031                   | 3  | 1  |

The motion of Mr. J. Vokes Mackey's estimate in connection with the water supply of the city—£59,794 16s. 6d.—was agreed to.

On the motion of Mr. Anthony O'Neill, a resolution striking a water rate of 1s. in the pound was carried.

The receipt and statement of the amount of the Grand Jury Rate, £18,983 14s. 8d., ordered by the Court of Queen's Bench, was also ordered to be forwarded to the Collector-General, as well as a resolution authorising a levy of the rate.

Mr. Dudgeon, Cargen, Dumfries, has presented to the Museum of Science and Art, Edinburgh, his private and extensive scientific collection of Scotch minerals, which will be of great value to mineralogists.

### THE BANN NAVIGATION—PROPOSED WORKS.

In accordance with the request of the Coleraine Town Commissioners, Sir John Coode, C.E., has prepared drawings and estimates with a view of an application being made to Parliament in the ensuing session for the necessary powers to execute works for the permanent improvement of the mouth of the Bann, and for providing wharfage accommodation and works at Coleraine. The cost of the proposed works described in detail are thus estimated:—

#### WORKS AT THE MOUTH OF THE RIVER.

|                                  |   |   |         |
|----------------------------------|---|---|---------|
| East Pier, with Landing Jetty    | - | - | £29,954 |
| West Pier                        | - | - | 20,152  |
| Dredging from Section 3, seaward | - | - | 6,600   |
|                                  |   |   | £56,706 |

#### WORKS AT COLERAINE.

|   |   |   |         |
|---|---|---|---------|
| New East Wharf, raising existing Quay, and Dredging | - | - | £5,027  |
|   |   |   | £61,733 |

The above amounts include contingencies, cost of plant, and provision for staging.

The extension of the East and West Piers, to be carried out when funds permit, would involve a further outlay of £23,610; and the West Wharf at Coleraine, and dredging, to afford further and more extended accommodation hereafter, would cost £4,585.

### ADVERSARIA HIBERNICA,

#### LITERARY AND TECHNICAL.

PEARLS were pretty often found during the last century in the Poolbeg oyster, raised in the harbour of Dublin; but the ancient glories of the Poolbeg mollusca as well as the bivalve itself are departed, or rarely heard of now. The water of the Liffey for several miles up the river is no longer crystal, and certainly when it reaches the North and South Walls the fishes with shells or without shells have reason to fear for their safety. Eels may enjoy the "verdant" mud, and luxuriate in filth in a tidal river or at the mouth of such tributaries as the Poddle and Camac; but the oyster likes the water somewhat clean, and would, we opine, prefer living outside the Poolbeg Lighthouse than within the harbour. It is so many years since we eat a Clontarf or Malahide oyster that we forget their size, and we are, in consequence, unable to say whether they now possess the same flavour as of old. We never were so fortunate as to find a pearl in any of them; but then we were obliged to be economical in our youth, and we more often indulged in a dish of black cockles from "Crab Lake."

Pearl-fishing existed with some profit to many in Ireland even two centuries ago. Here is an extract from a letter written by Sir Robert Redding, F.R.S., dated Dublin, October 18th, 1688, concerning the pearl fishing in the north of Ireland:—"The manner of their fishing is not extraordinary; the poor people in the warm months, before the harvest is ripe, whilst the rivers are low and clear, go into the water, some with their toes, some with wooden tongs, and some by putting a sharpened stick into the opening of the shell, take them up; and although by common estimate not above one shell in a hundred may have a pearl, and of these pearls not one in a hundred be tolerably clear, yet a vast number of fair merchantable pearls, and too good for the apothecary, are offered for sale by these people every summer assize. Some gentlemen of the country make good advantage thereof; and myself while there saw one pearl bought for fifty shillings that weighed thirty-six carats, and was valued at forty pounds, and had it been as clear as some others procured therewith, would certainly have been very valuable. Everybody abounds with stories of the good pennyworths of the country, but I will add but one more. A miller took a pearl, which he sold for four pounds ten shillings to a man that sold it for ten pounds, who sold it to the

Lady Glenanly for thirty pounds, with whom I saw it in a necklace; she refused eighty pounds for it from the late Duchess of Ormonde." The same writer mentions that he sent with the letter a few pearls taken in the river near Omagh; also that there are four rivers abounding with the fish that empty themselves into Lough Foyle; also there are other rivers in the County "Dun-nagall," a river near Dundalk, the "Shure" (Suir) running by Waterford, and Lough Lean, in Kerry, which afford like fish.

Pearl-fishing in Ireland has long ceased to be prosecuted as a lucrative business, though no doubt species of the pearl oyster exist on the coast of Ireland. It is in the warm seas of the East and West Indies that profitable "pearl banks" exist, and are constantly dredged at stated seasons. If pearl oysters are not in abundance in Ireland, we have fish of other kinds in such quantities as to form one of our undeveloped resources. For lack of enterprise and, perhaps, a little help betimes wisely directed by the State, the people on our coast as well as inland often hunger. The long-desiderated National Fishery Company is still an unembodied scheme. There is plenty of scope and outlet in this country not only for one great company, but for a number of fishing companies in each of the four provinces.

Wonderful specimens of handicraft have been achieved by hand-weavers in Ireland and elsewhere, but the advent of the steam loom played sad havoc with the weavers of the Dublin "Liberties" and those of Spitalfields and Bethnal-green in London. In 1819, Thomas Hall, a linen weaver in this country, finished a shirt entirely in his loom. It was woven throughout without seams, and very neatly and accurately gathered. The neck and wristbands were doubled and stitched, there was a regular selvege on each side of the breast, the shoulder straps and gussets were neatly stitched, as well as the wrists. This shirt, we learn, was exhibited at the time to several persons in the linen trade, who completely satisfied themselves that it was actually the production of the loom, without any assistance from the needle. If shirts could have been economically turned out from the hand or steam loom since Hall's successful specimen, a great revolution in shirt-making and other needlework might have been accomplished before the sewing machine made its appearance. When Thomas Hood wrote his celebrated "Song of a Shirt" about 1845, the trade of a seamstress or shirt-maker had become miserable enough. The sewing machine for a short while promised to improve matters, but now with the sewing machine almost universal, competition has become so rife, that wretched remuneration obtains. Shirt-makers, except those engaged on the best kinds of work, or those working for private families, earn but a scant pittance. A vast amount of slop-work in shirts and other linen and cotton articles intended for personal wear is at present turned out for wholesale and retail drapery establishments. It is equally true that nearly all this class of work is paid for at starvation prices. Of course these articles are sold at a profit, but the poor seamstress whether she be a plain worker or a private machine hand, has need to work hard and for long hours "to make both ends meet." Many years ago in Dublin and in other cities and towns a class of women known as "plain workers" existed in numbers, and obtained a respectable living by their needle. That class is now extinct or exist no longer under their old conditions.

Sir Jonah Barrington in one of his entertaining works furnishes us with an instance of perseverance on the part of a working carpenter worthy of notice:—"I recollect in the Queen's County to have seen a Mr. Clerk who had been a working carpenter, and when making a bench for the session justices at the court-house, was laughed at for taking

peculiar pains in planning and smoothing the seat of it. He smilingly observed 'that he did so to make it easy for himself, as he was resolved he would never die till he had a right to sit thereupon,' and he kept his word. He was an industrious man—honest, respectable, and kind-hearted. He succeeded in all his efforts to accumulate an independence—he did accumulate it, and uprightly. His character kept pace with the increase of his property, and he lived to sit as a magistrate on that very bench that he sawed and planed." Well done, Jack Plane, still you are not the first or the last of your trade who mounted the ladder from the lowest rung. The Craft of the Crucified has had some noble representatives during the last (shall we write) nineteen centuries.

In the "Annals of Ireland," as given in "Gough's Camden," there are some very interesting particulars given of John Le Decer, who was Mayor of Dublin in the fourteenth century, and who acted in that capacity on three occasions—1308, 1309, and 1324. Le Decer's benefactions were of the most practical kind, and it might be certainly said he was, if not a sanitary, at least a great social reformer for his time. "Mcccvi. This year a marble cistern was made to receive the water from the conduit head, Dublin (such as was never before seen there), by the mayor of the city Master John Le Decer, and all at his own expense." The mayor, a little before, caused a bridge to be built over the Liffey near the Priory of St. Wolston. He also built the Chapel of St. Mary of the Friars Minors, wherein he was buried, and the Chapel of St. Mary of the Hospital of St. John in Dublin. Le Decer was a liberal benefactor to the Convent of Friars Preachers in Dublin, he made one stone pillar for the church and laid the great stone upon which it rests with its ornaments. His hospital was to have been on a par with his other benefactions. He entertained the friars at a dinner table on the sixth day of every month of pure charity, "as the senior friars reported to their juniors."

Here is a detailed record:—Mccciii.—"This year Master John Decer, a citizen of Dublin, caused a bridge to be built which was very handy, reaching from the town of Ballybough to the Causeway or Mill Pool of Clontarf. Before was a very dangerous passage, but after great charge the whole bridge with its arches was washed down by an inundation." The bridge over the Tolka was again re-erected after some time. The present bridge at Ballybough, we believe, comprises portions of the stonework of a structure some centuries older.

Respecting the above worthy magistrate we take the following from the pages of Harris:—"It is also recorded in the registry of the Dominicans of Dublin that this generous magistrate, in time of great scarcity, raised a vast sum of money and furnished out three ships to France, which returned in two months laden with corn, and that he bestowed one of the ship's loading on the Lord Justice and militia, another in the Dominican and Augustin seminaries, and reserved a third for the exercise of his own bounty. At the same time the Prior of Christ Church, being destitute of corn, and having no money to buy it, sent to the worthy mayor a pledge of plate to the value of £40, but he returned the plate and the prior a present of twenty barrels of corn." Harris further adds that these benefactions moved the Dominicans to insert the following prayers in their liturgy, viz:—"Orate pro Salute Majores ballivorum et communitates de omni civitate Dublinensi optinorum benefactorum huic ordini tuo nunc et hora mortis."

Long before Le Decer's time, the supply of water for the use of the citizens occupied attention, and efforts were made towards that end. How the want was supplied and of other surroundings we may tell hereafter.

H.

## LAW.

ACTION AGAINST AN ARCHITECT.  
CITY RECORD COURT.

*Martin and Son v. Hague.*—The plaintiffs in this case were Messrs. John Martin and Son, the well-known timber merchants, North-wall, and the defendant Mr. William Hague, an eminent architect. The action was to recover the sum of £50, part of a sum of £65 10s. 10d. (plaintiffs abandoning the excess for the purpose of proceeding in this court), the balance of an account due for goods sold and delivered, materials provided, and work done, in the year 1875. Defendant is an architect, doing business chiefly in preparing plans for the alteration or building of religious houses, and had been engaged for the supplying of seats, kneeling-boards, &c., in St. Brigid's Convent, Tullow. It appeared that he contracted with plaintiffs for the supply of materials, &c., but stated, as alleged, when the work was done, that he had exceeded the estimates agreed upon with the Lady Superiress. A sum of money was paid on account, but defendant undertook in a letter to plaintiffs to be responsible for the balance, and to pay it himself. The case had been heard at the April sessions of present year, and was several times adjourned for the purpose of a settlement being effected between the parties out of court, but without effect.

His lordship made a decree for £32 10s., remarking that if defendant would not accept that decision he would give a decree for the full amount claimed to £50, as he was entitled to do considering the letter of the defendant. He had arrived at his decision by dividing the original debt of £65 odd in two.

## ENCROACHMENT ON A PUBLIC ROAD.

A COUNTY SURVEYOR AND A MAGISTRATE  
IN ERROR.

QUEEN'S BENCH DIVISION.

*Hallinan, appellant; Fosberry, respondent.*—This was a case stated by the magistrates of County Limerick, sitting at Kilmallock petty sessions, for the opinion of the court.

Mr. W. O'Brien, Q.C., with Mr. C. Roche, for appellant, said the paper sent up by the magistrates, and called "a case," was certainly a very good illustration of the intelligence that presided at the tribunals from which this was an appeal. It was signed by Mr. Coote, the chairman. The summons was by Mr. Fosberry, County Surveyor, against Mr. John Hallinan, a miller, for "that the defendant is building, within the last month, a house within 30 ft. of the centre of the public road at Water-street, Kilmallock, in the County Limerick, contrary to law." Mr. Coote gave an extraordinary statement of the case. He said that Mr. Fosberry gave evidence to the effect that at the time of laying the foundation of the building in question he had warned the appellant's servants and workmen that they were encroaching on the public road; notwithstanding that, the building was carried on, whereupon the summons was issued. There was no account at all given of the evidence in support of the case.

Mr. Justice Fitzgerald said he conjectured from the statement of the case that no evidence was given on any side.

Mr. O'Brien said the majority of the justices held the case was proved, and fined the defendant 2s. 6d. and 1s. 6d. costs, and ordered him to remove the building complained of, and to pay the further sum of 10s. a-week while the same was allowed to stand. Mr. Coote had not said the evidence was tendered by the defendant that Kilmallock was a market town, and, therefore, exempt from the provisions of the act under which the plaintiff proceeded.

Mr. W. M. Johnson, Q.C., for the respondent, said if the appellant quarrelled with the case the proper course would be to send it back to the magistrates to be amended.

Mr. William O'Brien said if the case was sent back to be amended he would apply for a *certiorari* to quash the conviction.

Mr. Justice Fitzgerald remarked that the magistrates had not stated in the case the facts on which they based their decision.

The Court made an order quashing the conviction.

Mr. Johnson asked that no action should be brought.

Mr. O'Brien—We may have an action against Mr. Coote for maliciously proceeding after the resident magistrate had left.

Mr. Justice O'Brien said the only order they could make was, that no action was to be brought for anything done under this order.

## A BUILDER'S ACTION.

(Before the Lord Chief Baron and a Special Jury.)

*William Coates v. Thomas Joyce.*—This was an action by William Coates, builder and contractor, residing at North Strand-road, to recover £167, alleged to be due on foot of building contracts for works executed at Kilternan, Co. Dublin. Defendant, Thomas Joyce, has an office in Fownes-street, where he carries on the "Accommodation Bank." The case involved a controversy between the parties as to the terms of contracts under which the works were executed, and also a dispute as to a number of items set out in the accounts furnished by plaintiff to defendant. After a two days' hearing, the jury found for plaintiff, and the Lord Chief Baron referred the matter to the Master to take an account between the parties.

ACTION FOR  
ADVERTISEMENT CONTRACT.

*Thomas Moore v. William Winter.*—This was an action to recover £94 15s. for work and labour done. Defendant pleaded that the work in question was only value for £40, which sum he lodged in court. Plaintiff's printer and publisher of two periodicals—the *Irish Farmer* and the *Gardeners' Record*, and defendant is the proprietor of iron works in Church-street. Plaintiff's case was that defendant contracted with him for twenty-six insertions of advertisements of iron gates and patent railings in both journals for a sum of about £60. At the end of four months he applied to defendant for payment of the account for first three months, but defendant refused, and directed that the advertisements should be discontinued. Plaintiff offered either to continue the advertisements at the contract price, or to stop short then, and charge full rates (the amount sued for) for what had appeared, both of which propositions were declined. The jury found that there was a contract between the parties, pursuant to which they found for plaintiff £14 10s. over and above the sum lodged in court.

## BOOKS RECEIVED.

*Remarks on the Irish Dialect of the English Language.* By A. Hume, D.C.L., LL.D., F.S.A., M.R.I.A., &c. Liverpool: Thomas Brakell, Dale-street. 1878.

THE author of this little work—an abridgment of a larger one intended for future publication—appears to have devoted considerable study to his subject. Mr. Hume is a member of several antiquarian, archæological, and philological societies, besides being Vicar of Vauxhall, Liverpool, and Hon. Canon of Chester. In treating his interesting subject—the dialect of the English language used in Ireland—our author does it from three points of view: Firstly, he considers its origin; secondly, its internal peculiarities; and, thirdly, its relation to other dialects. His tripartite examination comprises the historical, the anatomical, and the comparative. Introductory to the main portion of his subject, Mr. Hume discusses at some length the various influences that combined, from the introduction of the early settlers—the Danes, the Anglo-Normans, the English and Scotch,—from various provincial districts to give rise to the mixed features of

the Irish dialect of the English language. Some good reasons are shown throughout the author's argument, and these reasons to a great extent are confirmed when he comes to deal with the characteristics of the dialect in certain districts of the four provinces. Mr. Hume differs from the generally-received opinion that the Fingalian element in the north of the County of Dublin was Scandinavian, and holds that they were unquestionably English, though their name indicates "fair strangers." He adduces the authority of Stanihurst, who spoke of the Fingalians nearly three hundred years ago as speaking good "Chaucer English." Chaucer's works are now almost unreadable without a glossary, and so are many of our dramatists, including Shakespeare. Mr. Hume writes:—

"There exists a glossary of the Fingalian language, extending to 260 words, many of them being corrupt or peculiar versions of old English words—probably identical with those in the district from which the ancestral people came. This glossary is supposed to have been made out about the middle of the last century, but the people retained their peculiar manners and customs for at least 75 years after, or down to the first quarter of the present century."

Indeed, the present writer can say, having been born and spent many of his earlier years in the Fingal district, that some peculiar customs existed in his time, and there are still a few words peculiar to the district in the method of their pronunciation. The dialect of the Forth and Bargo district is alluded to, and some of its illustrators, from the time of Vallancey to our own time. Some of the best samples of the Irish dialect of the English language will be found in the stories of Carleton Lever, Lover, &c., and in the stories and sketches of a number of other Irish writers in the pages of the *Dublin Penny Journal*, the *Irish Penny Journal*, the *Irish Penny Magazine*, and the *Dublin Journal*, published in 1842-3. Mr. Hume shows that he consulted some of these sources, though we must add that in some particulars they are not to be entirely depended upon, for some of our story-tellers wrote several words according to their own sweet fancies in spelling, to make them the more amusing to their readers. Still in several provincial districts in Ireland the peasant can be interviewed, and he will certainly confirm Mr. Hume's examples in many particulars. Our author writes:—

"After making due allowance for the mediæval English words which were introduced by the early invaders, and also for the words and expressions of our time, it is clear that the basis of the Irish dialect is the current English of the time of Elizabeth."

Further on he boldly states:—

"Yet the curious fact is, that probably not 200 words, or one in ten, would be required to enable the Irish peasant to understand Shakespeare. One is amazed at the ponderous waste of criticism on such terms as 'dry,' meaning thirsty, or 'bell, book, and candle.' And the expression of Othello, 'let housewives make a skillet of my helm,' would be understood by every cottager from Carrickfergus to Cape Clear."

Mr. Hume gives a specimen of the glossary he has prepared of words used in Ireland. Under letter A the different sounds are pointed out, and the manner in which the letter is often used in Ireland, and formerly in other directions. The Irish sound of the letter A has good authorities to recommend it, for the same broad sound will be found in the works of many distinguished English writers and poets.

The Irish dialect of the English language is worthy of study and full illustration, and we hope Mr. Hume will be enabled in course of time to give his complete work to the public. We write hurriedly and briefly now, but we will on another occasion return to the subject of this little work. It shows considerable research and acquaintance with the habits and customs of our people. It will be found useful to the local historian, and we can commend its perusal to all classes of our intelligent countrymen, who will find it entertaining as well as instructive.

*The Pantiles Papers.* Edited by Mrs. Leith Adams. London: E. W. Allen.

SUCH is the title of a handy-sized magazine which has been in existence for some months, and of which a Christmas double number has just reached us. It comprises ten papers of a light and entertaining character. The first, "Christmas Eve at the Manor House," by the editor—tells a story of a "prodigal son," and his return to the home of his youth on Christmas Eve. In "Mr. Bumblekite's Bank Holidays" we have the experience of a managing clerk in spending his holiday abroad and at home, narrated in the happiest style. From the pen of H. C. Hartnell we have a paper entitled "A Reverie upon the Pantiles." The scene of his "reverie" is Tunbridge and its wells, where in the days of Charles II. "the medicinal fame of the waters conjured thither a goodly company, some for health, but more for pleasure, and made it the rendezvous of the gay and handsome of both sexes." Our curiosity was elevated to the highest pitch to learn the origin of the portion of the title—"Pantiles." Our author tells us that at this fashionable resort, and shortly after the erection of a church, a fire destroyed the tenements on the Parade, and that this was followed by the building of the present ones on their site, and the paving of the heretofore green grassy bank with *baked tiles*, from which circumstance the walks were afterwards denominated the "Pantiles"—a name which still adheres. Mr. Hartnell brings before the reader the names of many of the famous ones that sported themselves at this fashionable lounge. We shall look out anxiously for further contributions from his pen in the magazine under its new title. The other papers in the number are very readable, and the poetical pieces above the average.

#### THE ROYAL IRISH ACADEMY.

THE Academy met on Saturday evening, the 30th ult. Sir Robert Kane, President, in the chair.

Mr. Valentine Ball, M.A., F.G.S., read a paper "On the Forms and Distribution of Ancient Stone Implements in India." In Madras and Southern India, the chipped stones appeared to be of the latrite period during which the peninsula of India must have been gradually elevated 500 to 600 ft. They were found in abundance near masses of metamorphic rock and on the flanks of hills which probably stood out as islands in the latritic sea. They all conformed to varieties of chipped quartzite, and but one example of a polished celt was found in the Presidency, and that was a stone hatchet. In the central provinces the chipped quartzites were very similar to those in Madras; but in Bhootra several implements were found *in situ* in osseous deposits of the pleistocene age. In Bombay a well-fashioned flint knife was found in contact with osseous remains. In the Scinde and Belochistan districts a number of articles of pottery were found, together with some very well-shaped knives. Several stone implements, probably used for dressing skins, were found on a lofty hill in western Bengal. In Assam polished celts had been discovered in small numbers at wide intervals; they seemed to have been used as hoes for weeding and planting. The Assamese believed them to be thunderbolts. In Burmah these instruments, called moghios, were regarded as charms, and it was believed that a house which contained a real moghio could not be burned, although he had never heard of the ordeal being tested; that the owner of a real moghio could even cut a rainbow in half. In the Andaman Islands the natives chip flints at the present day, and in Sumatra a polished celt had been found. India might be divided into three great regions, each characterised by having a certain class of stone implements. The chipped quartzites were found from Rajpootana to Patan on the Godavery. The polished celts occupied an area from Upper Assam to Singboon in Bengal, and from the Irrawaddy Valley to Jubbulpore in the central provinces.

Sir Samuel Ferguson said he had much pleasure in moving that the paper should be referred to the council for publication.

Dr. Frazier, in seconding the motion, said the paper was one of especial interest for Irish antiquaries.

The resolution was adopted.

Professor Hennessy, F.R.S., read a paper entitled "A Note relative to the Structure of the Interior of the Earth."

Robert S. Ball, LL.D., F.R.S., read a paper entitled "On a New Determination of the Annal Parallax of the Star 61 Cygni."

The Academy proceeded to the election of a member of council, in room of Mr. John Ribton Garstin, resigned. Rev. Maxwell Close was elected thereto, as also to the office of treasurer.

Dr. Frazier thought they ought not to allow Mr. Garstin's resignation to pass without a special vote of thanks from the members of the Academy. Mr. Garstin had always had the interests of the Academy at heart, and was most popular with its members.

Professor Atkinson, as a member of the council, had much pleasure in seconding the motion.

The President desired to add his own testimony as to Mr. Garstin's services, and to the unflagging zeal with which he devoted himself to the discharge of his functions as treasurer. He joined in the hope that after a little experience of the pleasures of a residence in the interior of the country, Mr. Garstin would be found amongst them once more.

The resolution was unanimously adopted.

Mr. J. T. Gilbert said that Lord Talbot de Malahide had placed in his hands, for presentation to the Academy, some important documents relating to the period of the Revolution of 1688.

#### NOTES OF WORKS.

A new R. C. church is to be built at Termonfeckiu, Co. Louth, from the designs of Mr. P. J. Dodd, architect, Drogheda.

The new R. C. church at Inchicore, Co. Dublin, was dedicated on Sunday last by the Most Rev. Dr. McCabe. The building is still in an unfinished state, and funds are called for. Mr. G. C. Ashlin is the architect.

A chapel in connection with the "Macgeough Home," Palmerston Park, Rathmines, has been consecrated by the Archbishop of Dublin. The "Home," as some of our readers are aware, has been established for elderly ladies of good character. There are already 27 inmates.

BRAY.—The commissioners have borrowed two sums of £7,000 and £4,000 from Government. The first loan has been contracted under the Sanitary Act, principally for improving the sewerage of the township; and the second for the rebuilding of the sea wall of the dock at Bray river mouth, completely carried away by succeeding gales, and its place taken by a bank of shingles. The wall will, however, afford a good sea defence for a range of working-men's houses known as Dock-terrace, and of the gas works there.

GALTRIM CHURCH.—Recent alterations and improvements in this church have rendered it one of the most commodious in the diocese of Meath. The improvements include—The conversion of the porch into a vestry; the opening of an entrance door through the bell-tower at western end; the alteration of the large square pews into single sittings; the removal of the pulpit and reading-desk to the north and south of communion table; providing a new reading-desk and chancel rails; stoves in church and vestry; and re-colouring of the walls, painting, and furnishing throughout. The painting, &c., was carried out in a very satisfactory manner by the firm of Brooks, Thomas, and Co.

Amongst the manufacturing premises which have recently been erected in Belfast are the Queen's Bridge Soap and Candle

Works, which are built in Ballymacarrett by the sons of the late Mr. James Shaw, for many years head of the firm of Messrs. Shaw and Finlay, of Belfast and Londonderry, so well known in the soap trade. The buildings are three storeys high, and have been planned specially for the requirements of the trade on the most approved principles, and, including the business offices and stabling, yard, &c., cover a very large area. The machinery, boiler, pans, and cisterns have been nearly all supplied by local firms. The smoke and effluvia are carried away from the premises by an ornamental chimney shaft rising nearly 100 ft. high. A large sum has been expended by the proprietors, so as to produce the best possible goods; and the contract was executed by Messrs. Dixon and Co., of Clifton-street, in their usual satisfactory manner, according to the plans and specifications prepared by Mr. William Batt, jun., and under his superintendence.

#### LIGHTING TOPICS.

A GAS COMPANY FINED.—A fine of £10 was inflicted on Wednesday on the Portsea Island Gas Company for supplying gas below the standard fixed by Parliament.

BRAY.—The Commissioners have made application to the Alliance and Consumers' Gas Company for a reduction in the price of gas supplied to their township, and in uniformity with the terms arranged for the metropolis.

LIMERICK.—A correspondent says:—"The opinion of Mr. C. J. O'Connell, Q.C., parliamentary counsel, has been given to the power of the Corporation to make use of the obligation they undertake under the Gas Company's concerns. His opinion is that the Corporation are bound to accept of the terms under certain conditions. The Corporation will have to incur an expense of £54,000, irrespective of whether the scheme will prove a success or not."

EDISON.—On 1st inst. was the last day for such opposition. The Corporation have granted of letters patent to Edison for "improvements in the means for developing electric current by means of electricity," was filed at the Great Seal Office by Messrs. Herbert and Co., as agents for Edison. The ground that Mr. Edison is the true and first inventor." The Corporation have heard by the Solicitor-General at his office about a fortnight's time. There is a strong opinion in the field who claim to be before him in his alleged invention.

KINGSTOWN.—At a meeting of the commissioners held on the 2nd inst. it was moved that the resolution passed at a previous meeting that the contract with the Gas Company be for one year only, be rescinded, and a contract for three years be entered into. Mr. McEvoy opposed the resolution on the ground that it was not to the advantage of the ratepayers to bind themselves against using any improved mode of lighting. He quoted the report of proceedings in Liverpool and other places, where the municipal bodies were taking steps for the adoption of the electric light. He trusted they would imitate the example of Liverpool by no shareholder voting on the question. On a division, Messrs. Crosthwaite, Kelly, Sexton, Herron, Roche, and Lagan, voted for a three years' contract. Messrs. McEvoy, Barrett, Cunningham, Doyle, Donovan, and Sullivan against. Mr. Crosthwaite gave a second vote, as chairman, in favour of the resolution, but as there was a lesser number of commissioners present than when the one-year resolution was passed, the latter stands.

NEWRY.—At the last meeting of the Town Commissioners a letter was read from Messrs. Martin and Leslie, the parliamentary agents of the Newry Gas Bill, stating their "very clear opinion that the Town Commissioners are bound by every honourable consideration to carry out their agreement with the Newry Gas Company, embodied in the act of last year." These gentlemen add:—"We are quite sure that if the commissioners do not carry out the agreement embodied in the act, by reason of any vote of themselves, or of the ratepayers, amounting practically to repudiation of the bargain, such a proceeding would stand against them in all future applications to Parliament with reference to gas-lighting or electric-lighting or anything else." The board at once appreciated the force of this statement, and the solicitor and town clerk were deputed to proceed to London for

the purpose of concluding negotiations for a loan of £32,000 from the Church of England Temperance Provident Institution. This being accomplished, the undertaking will be taken over by the Commissioners on the 1st prox.

### STUCCO-WORK AT THE NEW STOCK EXCHANGE.

WE are asked to correct an error in a recent notice of the above-named building, wherein we stated that the ceilings and walls were composed of woods of various kinds. It is with pleasure we record the fact that the principal hall, staircase, and stockbrokers' fine apartment have all their embellishments executed in first-rate artistic style by the firm of James Hogan and Sons, Great Brunswick-street, whose works in their special line have frequently been noticed in the columns of this journal. We are informed that not only the whole of the ceilings, panels, enrichments, coves, soffits, entablatures, cornices, modillions, blocks, caps, &c., are all executed in stucco of the best quality and finish; and the several ante, dados, pedestal mouldings, &c., throughout are composed of the durable and super-excellent material known as Caen cement, which displays a sharpness and fineness of finish far superior to any other known material. It is expected that the building will be ready for occupation on New Year's Day.

### AMATEUR ART.

THERE are a number of very commendable pictures in the seventh annual exhibition of the Dublin Artists' Society, which opened in the Leinster Hall, Molesworth-street, on the 5th inst. Although there is not any very marked increase either as regards the number or the merit of the pictures compared with the previous years, yet success is apparent and reputations sustained in more than one direction. We append a list of the prizes awarded by the judges, T. A. Jones, Esq., P.R.H.A., and Thomas Drew, Esq., R.H.A., and also the judges' report:—

Section A—Figure subjects and studies of heads—First prize, in oils, M. D. Webb (No. 154); second prize, S. H. Purser (No. 156); commended, M. Blake (No. 125).

Section B—Landscapes, marine views, &c., from nature—First prize, in oils, M. D. Webb (No. 82); second prize, Mary K. Benson (No. 111). In water colours—First prize, Emma Burgess (No. 332); second prize, Dora Martyn (No. 243); extra prize, J. M. H. Todhunter (No. 271); commended, R. S. De V. Kane (No. 221), and Canon Sherlock (Nos. 280, 277).

Section C—Animals—No prize; commended, Eustace Yeates (Nos. 12, 6).

Section D—Pictures from sketches, &c.—First prize, in oil, J. Ross Murphy (No. 51); second prize, M. D. Webb (No. 75); commended, Mary K. Benson (No. 62). In water colours—First prize, Dora Martyn (No. 249); second prize, Isaac Cooke (No. 246); extra prize, J. H. M. Todhunter (No. 271).

Section E—Flowers, fruit and still-life—First prize, in oils, S. H. Purser (No. 137); commended, Lilie Butler Lowe (No. 139). In water colours—First prize, Frances Thompson (No. 174); commended, Marion Chute (No. 207).

Section F—Ideal pictures—First prize, S. H. Purser (No. 328); second prize, Jessie Cathier (No. 327).

Special Prize—Skies—Charlotte E. Benson.  
Extra prize for modelling, Mrs. Sharpe.

The following is the judges' report:—

As we are asked to express our opinion on the general character of this exhibition, as compared with those of the amateur artists in former years, we would note that while the prizes fall to works of undoubted merit, that fully sustain the reputation of the society, the competition in some of the classes is not so keen as usual. The duties of the judges were, consequently, discharged with less difficulty than they could have wished to experience. The highest merit appears to be reached in Section D (water colours), the numerous landscapes exhibited by the artist who has obtained the first possessing qualities rarely met with in the work of amateurs. The two heads to which the first and second prizes have been awarded in Class A are decidedly in advance of those of last year, both in expression

and tone. The general merits of Sections B and D (landscapes in oils) are scarcely so high as usual, but we are glad to notice some cloud studies, a new and meritorious feature in this exhibition. We have been precluded from distinguishing a work of considerable merit, an interior of a picture gallery, No. 254, from the fact of its having been reserved from competition. We were, however, permitted to award an extra prize for some most characteristic and clearly-modelled groups of figures which occupy a central place in the room, and do not come within any of the classes for which prizes were offered.

THOMAS A. JONES, P.R.H.A.  
THOMAS DREW, R.H.A.

### LABOUR AND WAGES.

In Ireland we have not had any disputes of a serious kind, with one or two exceptions. The master builders of Belfast have proposed a reduction of a halfpenny per hour in the carpenters' wages of the town, and, in addition, to extend the boundary within which no extra allowance will be paid for country work. Notice of the proposed changes was given on Tuesday last, and the men were allowed a week to come to a decision. It is stated that at a meeting of the men it was decided to resist the alteration in the boundary, and that as regards the halfpenny reduction the masters should give three months' notice. The stonecutters' wages in Belfast have been reduced from 8d. to 7½d. per hour, and notice of another ½d. per hour reduction in three months' time.

Throughout several of the cities and towns of England and Scotland reductions of wages have taken place. In some instances the masters have given notice to pay a halfpenny less per hour, having some months since carried out a like reduction. A few partial strikes have taken place in branches of the building trade, and in a few places the workmen have accepted the reduced terms for the winter months. Even outside the building trades in several industries reductions in wages have taken place, and factories and mills have put their hands on short time. In the north and midlands of England there is a great trade depression, and the mining and iron industries are suffering. In Sheffield the distress has been most severe for some months past.

Notices have been posted in the workshops of the principal builders at Bristol that after January 1st, owing to the badness of trade and the downward tendency of wages throughout the country, the wages of skilled artisans would be reduced one halfpenny per hour, and of other employés *pro rata*.

At a meeting held last week at Govan, to devise means for the relief of the unemployed, Mr. Pearce, of Messrs. John Elder and Co., pointed out that the strike of shipwrights last year, and a similar action on the part of the riveters some weeks since, had to a great extent been the cause of the present distress in Govan. He declared that his firm alone had lost orders amounting in value to more than £200,000 in consequence of the strike on the Clyde and competition in England, and that if the riveters would resume work the firm would be able to give work to all the unemployed in that burgh. The number of men whose names are on the roll of unemployed at Glasgow was 3,465.

### HOME AND FOREIGN NOTES.

UNSANITARY PREMISES.—During the present month a large number of sanitary cases have come before the magistrates of our Northern and Southern Divisional Courts, and varying fines have been inflicted for non-compliance with notices given to abate nuisances. The fines ranged from 10s. and 2s. costs, to 20s., and the same costs in flagrant cases.

THE METROPOLITAN SCHOOL OF ART.—We understand that some fine examples have been received on loan in this School of Art from South Kensington, for the use of the students. They consist of a life study in oil colours, by W. Etty, R.A.; the Post House at Amboise, by C. C. Pyre (water colour); a Ruined Bridge, in oil, by Canaletti; and the study of a Female Head, by G. Romney, R.A. We would again remind young artist aspirants, artisans, and others, of the facilities that now exist in the old Dublin Society's School for acquiring a practical knowledge of drawing, as well as perfecting themselves in the higher branches.

ELECTRIC LIGHT IN DUBLIN.—There has been a fairly successful exhibition of electric light in Dublin by the old firm of Chancellor and Son, of Lower Sackville-street, with a view for outdoor illumination and photographic purposes. The machine adopted was a double Gramme. The

motive power of Messrs. Chancellor's machine was supplied from the establishment of Messrs. Ross, Murray, & Co., Abbey-street. We believe this application of electric light for photographic purposes has been the first experiment in Ireland, though it has already been tried with more or less effect in London and on the Continent.

THE WINTER "SUNSHADE" NUISANCE.—In the Northern Divisional Court, before Mr. C. J. O'Donel, John Byrne, Laurence Boomer, Michael Doyle, and William Dunne, shopkeepers, in Talbot-street, were summoned for causing a nuisance by having sunshades projecting over the footway, from which the rain dripped in such a manner as to seriously inconvenience the public. Evidence was given by a police constable that during heavy rain the water runs off the "sunshades" in streams on the heads of passengers. It was urged for the defence that the shades were used to protect the goods from the weather. His worship said he could not see the utility of such shades during the present season, and fined the defendants 5s. each.

STREET OBSTRUCTIONS.—A case heard in the Newry Borough Court may, perhaps, remind our Dublin municipal officials of their duties, and as it will be also information for our chronic obstructors in Dublin, we willingly give it. James McCormack, who keeps a toy shop in Hill-street, was charged at the suit of Sanitary-Officer Andrews with obstructing the thoroughfare in Hill-street. It appeared that Mr. McCormack thought fit to hang a large quantity of baskets and other commodities outside the window and door of his shop on several occasions. The Town Clerk referred to the Act of Parliament for his Worship, and it seemed that it enacted that no goods should be exhibited at a less height than 8 ft. 6 in. from the ground. His Worship fined the defendant 5s. and costs.

### TO CORRESPONDENTS.

THE PASSING YEAR.—This issue completes the Twentieth Volume of the IRISH BUILDER. "Twenty golden years ago" (as poor James Clarence Mangan—one of our most gifted but unfortunate of poets—once sang) embraces many events and many sorrows and triumphs; and even twenty years in the lifetime of a journal as well as of an individual comprise much to reflect upon—of reforms initiated, of opposition encountered in their advocacy, and of their final accomplishment at last. We have witnessed many phases of public opinion adverse to the public good, for public opinion, so called, is not always in the right. Without boasting, we may honestly lay claim to having pioneered in this journal, in the different fields of its advocacy, several important reforms, and assisted in their accomplishment. While representing professional interests, we have endeavoured at the same time to make the journal acceptable to a large class of general readers. In the future, as in the past, without sacrificing our principles, it will be our aim to make this journal worthy of its mission and position as the only representative organ of its kind in Ireland. Until we meet our readers and supporters again in the New Year, when we will have something further to say in general and particular, we wish them all "THE COMPLIMENTS OF THE SEASON."

THE ARTISANS' DWELLINGS ACT.—In this city the true motive of the act has to a great extent been ignored, and the general good sacrificed for the benefit of individuals. We fear the Home Secretary will need to give further attention to this act, and take steps for compelling public bodies to perform the duties that devolve upon them. More anon.

TECHNICAL EDUCATION.—Some of our correspondents writing to us on this and kindred subjects will have their wishes attended to in a short time.

Some correspondence and articles intended for present issue are held over.

RECEIVED—M. and Co. (London); J. J. P. (Belfast); J. F. (Darwen); E. Y. (Newton Abbot) sent on to the W. P. B. with many similar communications; W. F. (Cork) send remittance first; J. C. (Leamington) back numbers can be supplied at 4d. each, or bound volumes at 9s. 6d.

### NOTICE.

A Title-page and Index to Vol. XX. of the IRISH BUILDER will be sent to subscribers with next issue. Non-subscribers can procure copies at the publishing office on payment of Tenpence. The volume for 1878, neatly bound (price 9s. 6d.), will be ready on the 20th inst.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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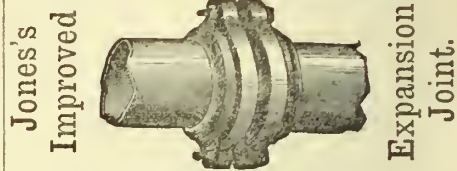
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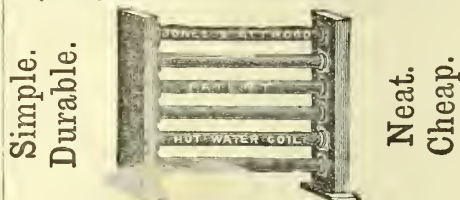
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DECEMBER 15, 1878.

1st & 15th  
OF THE MONTH.

Vol. XX.

## Contracts.

### CONTRACTS.

**THE DUBLIN PORT and DOCKS BOARD**  
are prepared to receive Proposals from persons willing to Supply such quantities of the undermentioned Articles, as may be required from the 1st January next, to the 31st December, 1879:—

Bartows, Trucks, &c.  
Brass and Plumbers' Work  
Brushes  
Broken Stones  
Buoys  
Canvases  
Cement  
Chains  
Clothing  
Coals (A)  
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Cotton Waste  
Foreign Timber  
Forgings  
Indiarubber  
Securities will be required for the due performance of the Contract.

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Iron and Steel  
Lamp Glasses  
Leather  
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Portland Cement  
Planks and Deals  
Poles  
Rapeseed Oil  
Rivets, Screws, Bolts, &c.  
Round Timber, &c.  
Sizable Building Stone  
Slates, &c.  
Lime

The lowest Tender, or any, will not necessarily be accepted. Tenders addressed to the undersigned, and sent separately through post, prepaid (Sealed), and Endorsed "Tender for —," naming the Articles, will be received at this Office up to Thursday, 19th December, 1878.

Printed Forms of Proposals may be had by applying at this Office, between the hours of eleven and one o'clock p.m. Payment on account of articles supplied will be by net cash.

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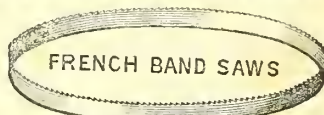
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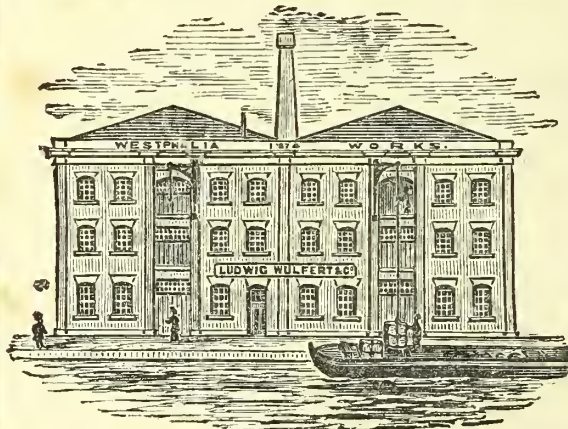
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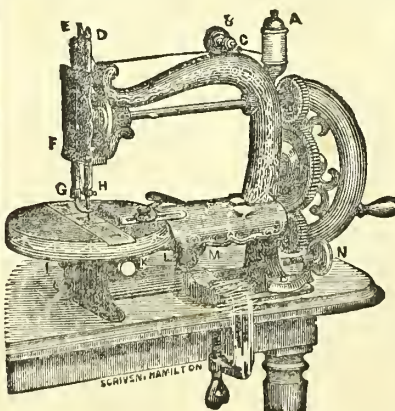
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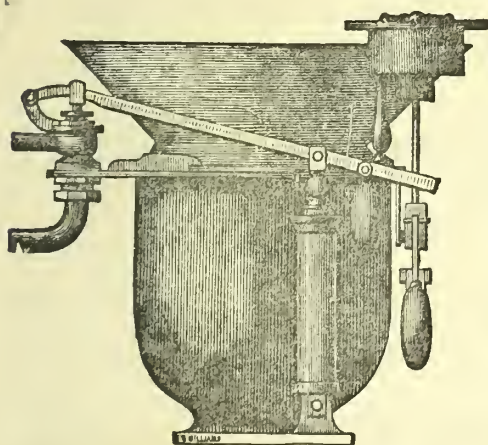
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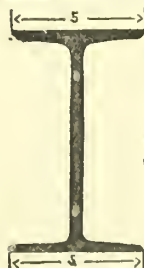
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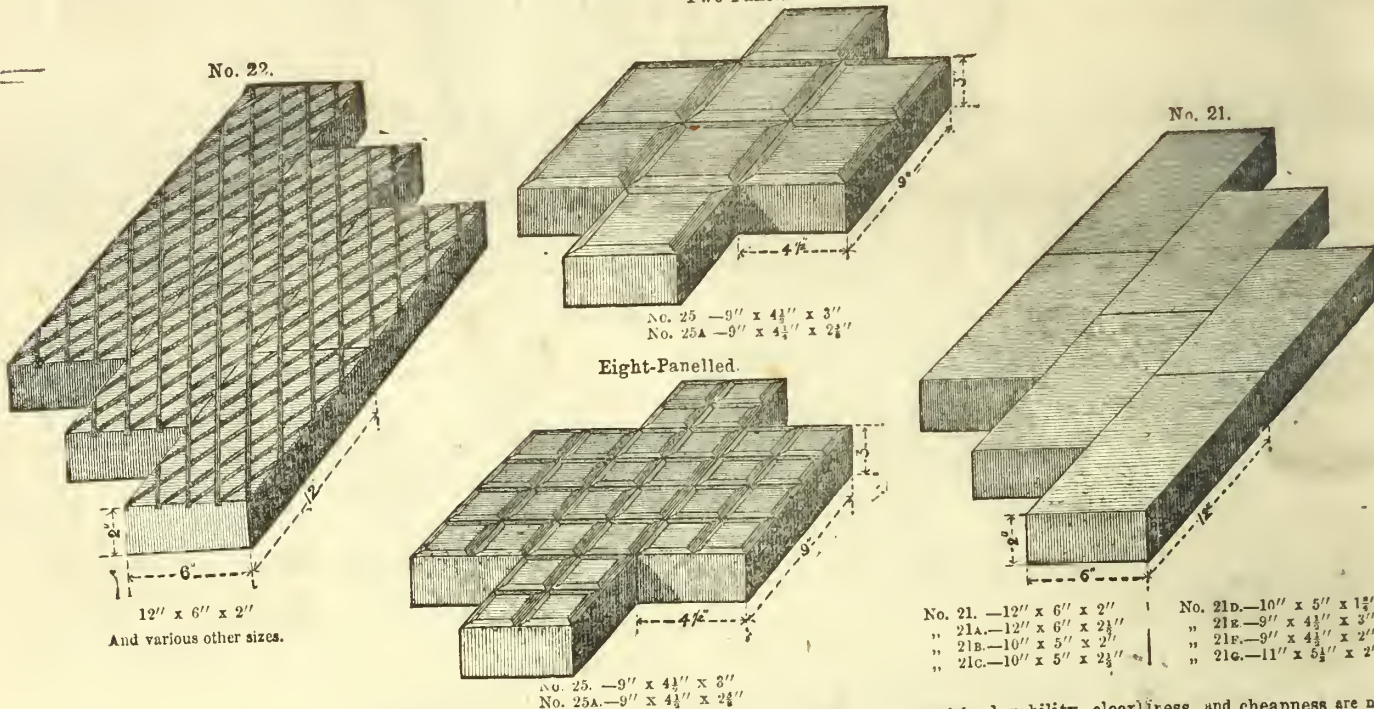
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